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The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCTION AND PIPE LINE DIVISIONS

THE WEEK'S NEWS INTERPRETED

SEPTEMBER 12, 1932
ume 66 Number 13

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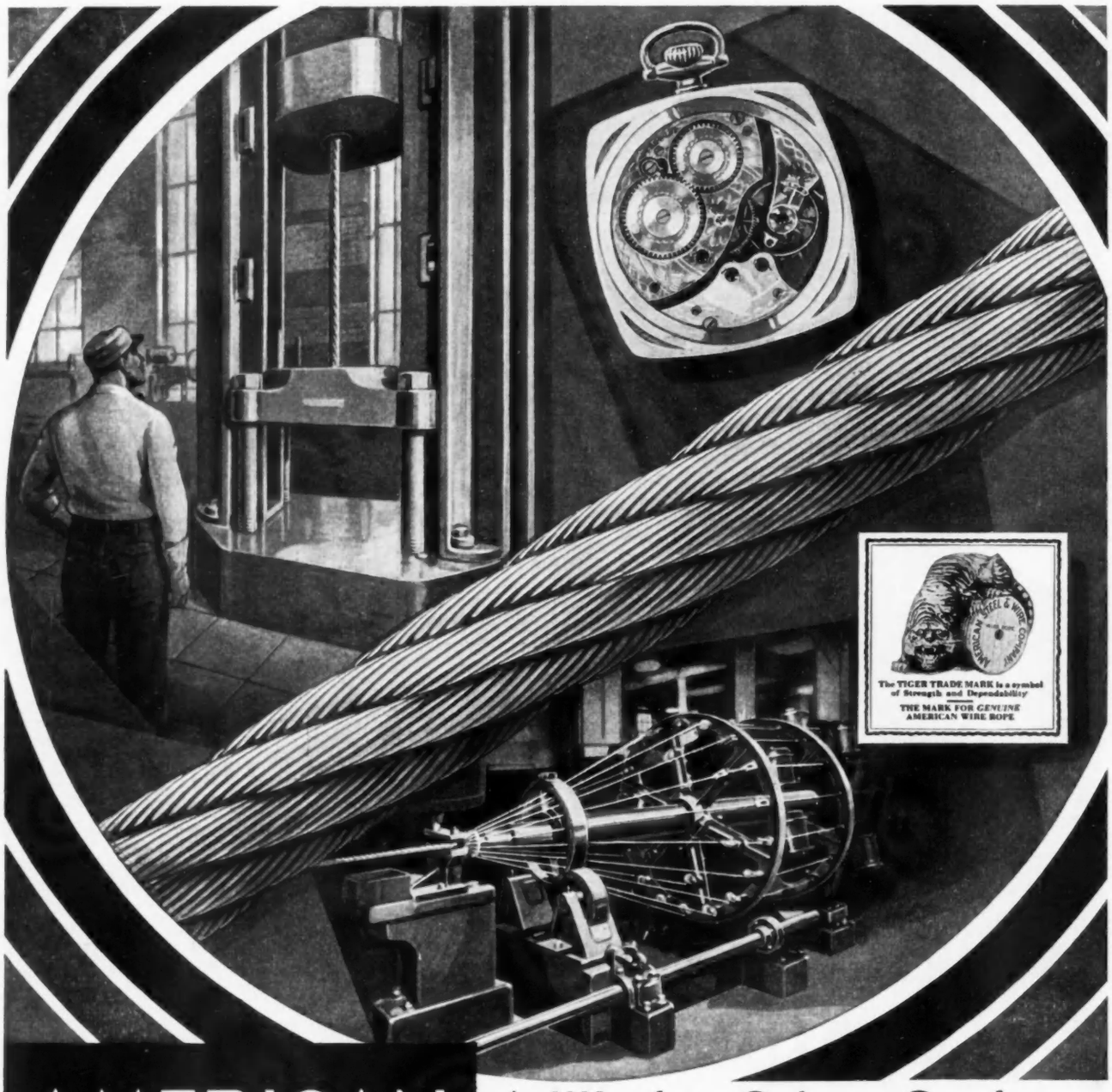

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S. W. ROBINSON
Editor

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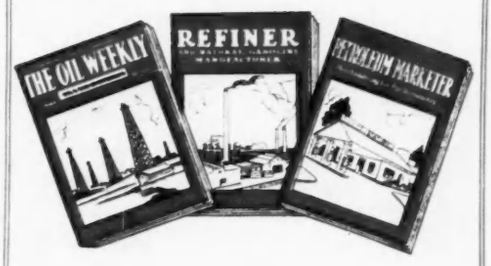

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

The much spoken of sharp decline in demand for gasoline was much in evidence in July, as revealed by government figures for that period. The indicated domestic demand was off 20.8 per cent from the same month last year, the cumulative loss in consumption for the seven-month period being brought to 7.8 per cent below January to August last year. Not quite to the 15 per cent spoken of by certain leaders, but an encouragement for that pessimistic view. Except for the loss in consumption, other figures revealed by the report are encouraging; crude stocks were depleted despite a substantial drop in runs to stills. At least part of the bad showing in refinery shipments can be assigned to resellers' tanks being full after the rush before the federal tax which went on late in June. American Petroleum Institute's compilation of gasoline consumption statistics based on taxes paid to the states, shows that in June consumption was 1.6 per cent under the corresponding month last year, and the first half of 1932 was 3.87 per cent under 1931. Page 10

Reports received by American Petroleum Institute from refining companies controlling 95.1 per cent of the 3,852,000 barrel estimated daily potential refining capacity of the United States, indicate that 1,964,300 barrels of crude oil daily were run to the stills operated by those companies during the week ended September 3, and that they had in storage at refineries at the end of the week, 35,823,000 barrels of gasoline and 134,947,000 barrels of gas and fuel oil. Gasoline at bulk terminals amounted to 13,405,000 barrels and 1,106,000 barrels were in water borne transit in or between districts. Cracked gasoline production by companies owning 95.6 per cent of the potential charging capacity of all cracking units averaged 411,600 barrels daily during the week. Page 21

The refining industry in its modern continuous chemical treating systems such as is pictured above "sweetens" its distillates and finished products through the utilization of over a million tons of sulphuric acid, and above 100,000 tons of caustic soda, (and other chemicals), annually.

Southwest Texas lacks the spectacular of the eastern area of the same state, but development in the district down toward the Rio Grande continues at a more or less steady rate. Production is found at such shallow depths in many areas as to make small wells profitable, and the fact that drilling costs are low has attracted numerous smaller operators as well as the larger companies. Recurring discovery of new fields in this area have given it sufficient interest that a series of articles on geology and general conditions there has been deemed well worth while.

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East Texas Threat

So long as regulations of conservation authorities in Texas controls the one biggest threat to oil industry stability, what the Texas legislature is doing will be interesting, and that body is now in special session called by Governor Ross S. Sterling, former oil man. Purpose of the session was to apportion part of the gasoline tax to counties to retire road bonds, but opportunity has been presented to introduce a bill which would divorce gas pipe line companies from ownership of gas production. This act is designed to permit enforcement of an existing law requiring ratable taking of gas from all producing wells, and to get around interference of interstate regulations which have so far blocked the ratable taking law as regards the important Panhandle gas field. Further, a proposed law will ratify action of the Texas Railroad Commission in ordering certain wells wasting gas to be closed in. In many quarters the authority of the commission to completely close in gas wells is questioned as the law now stands. In the meantime a threat that the commission's order reducing production allowances in Yates and Van fields would be attacked by injunction, has left the proposed order on the commissioners' desk without signature.

Much depends on what action is taken in a suit scheduled to be heard at Houston on September 19. Dilatory tactics on the part of the Texas Railroad Commission and apparent indifference of their attorney—the Texas attorney general, gives basis for free prediction that proration in East Texas will be lifted. Failure of the commission to stay by its original position and continued opposition in some quarters to holding the production down, also has served to disgust several substantial operators with the whole situation, so that they are inclined to withdraw their efforts to maintain the market. Loss of the suit by the commission might result in the legislature establishing an appointive board to handle oil conservation in the state—a little more removed from political influence. In the meantime it is certain that opening East Texas wells would result in such a flood of oil that the price would reduce to a few cents and crude consumers would fill their tanks with cheap oil for next year's refining. It is almost a certainty that only a few days of open flow would result in many wells on the edge of the field going to water. That this would induce the "riot and insurrection" so much spoken of last year is a certainty in the minds of observers who know the temperament of the natives. The whole process would teach some people a needed lesson, perhaps, but one for which they nor the rest of the industry can afford to pay.

Rumors that one company plans between 200 and 400 new wells in East Texas as fast as they can be drilled, has been fairly confirmed by reports of 75 steel derricks having been ordered for rush delivery. Other big owners of acreage in the area also are said to be making plans for a rush of drilling, which indicates a very busy period ahead.

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The Oil Man's Calendar

SEPTEMBER

14-16 *30th Annual Meeting, National Petroleum Assn., Atlantic City, N. J., Hotel Traymore.*

15 *Iowa Petroleum Association, Des Moines, Iowa.*

21-22 *Ohio Petroleum Marketers Association, Columbus, Ohio, Deshler-Wallick Hotel.*

21-23 *7th Annual Meeting North American Gasoline Tax Conference, Philadelphia, Pennsylvania.*

30- 1 *American Institute of Mining and Metallurgical Engineers, Petroleum Division, Ponca City, Oklahoma.*

OCTOBER

3- 7 *National Safety Council, Washington, D. C.*

4- 6 *Society of Automotive Engineers, Transportation Meeting, Toronto, Canada.*

10-14 *Annual Convention, American Gas Association, Atlantic City, N. J.*

11-12 *Kentucky Petroleum Marketers Association, Louisville, Kentucky.*

25-27 *Four State Convention, Kansas City, Missouri.*

NOVEMBER

10 *California Natural Gas Association, Los Angeles, California.*

15-17 *Thirteenth Annual Meeting, American Petroleum Institute, Houston, Texas, Rice Hotel.*

DECEMBER

5- 9 *American Society of Mechanical Engineers, New York, N. Y.*

? *Rocky Mountain Oil and Gas Association, Great Falls, Montana, Rainbow Hotel.*

Crude Production *Continues Below Demand* During August

JACK LOGAN
Staff Representative

FIGURES on drilling and crude oil production in the United States for August and for the year 1932 through that month are as monuments to the efforts of those who have sought and worked for rigid restriction of output—efforts which have been largely instrumental in bringing about the relatively healthy condition which the petroleum industry finds itself in today.

For while unremitting development of the East Texas field has boosted United States drilling activity for 1932 above levels of 1931 in the face of lowered consumption of petroleum and petroleum products, that disproportionate and unwarranted field activity has been effectively counteracted by a tightening up of proration programs and other plans of production restriction; so that actual recovery of crude oil has been running considerably lower in 1932 than in 1931.

For the year 1931 completions of oil wells, gas wells, and unproductive tests had amounted by the end of August to a total of 7476, while the similar period of this year furnished 9424 completions—an increase of more than 25 per cent. In contrast with that expansion of drilling, however, crude oil production declined from 563,978,150 barrels for that part of 1931 ending August 31 to 528,884,925 barrels for the corresponding period in 1932—a decrease of a little over 6½ per cent. So effectively has output been curbed, in fact, that production has been considerably below actual demand, even though the demand itself has shrunk, and it has been possible, consequently, for the industry to cut down materially upon the burdensome stocks of petroleum which it has been carrying above ground. Such reduction of stocks exceeded 5,000,000 barrels during only the first six months of 1932.

As stated above, the excessive drilling which has occurred during this year has been due in considerable measure to development of the big East Texas field, where competitive exploitation by many large and small companies and individuals has consistently spurred on a vigorous drilling campaign despite repeated slashes of the daily production quotas permitted wells in the field. The great five-county field, with its proven area of over 100,000 acres, spread out over a length of 40 miles and a width ranging up from several miles to eight miles, and with wells capable of flowing at the rate of 10,000 barrels or more daily, has offered little choice to the developers of the many leases into which the area is divided. Many of the operators have been eager to "drill up" their leases to take fullest possible advantage of the flowing life of the field, or in order to be prepared to share fully in its output in event it should be thrown open through failure of the proration program which has restricted it during most of its history. The impatient drilling by such operators, large and small, has naturally forced proportionate drilling by owners of offset leases; and so the lively campaign has gone forward, until by now the field has been more than one-half—possibly almost three-fourths—drilled up. It has already approximately 8000 producing wells.

Of those wells more than half have been placed on production since the beginning of this year, total completions of productive oil wells for the field in the period January-August, inclusive, numbering 4041. The relative importance of that number is indicated by the fact that in the similar period of 1931 the whole United States had furnished only 3880 productive oil wells.

East Texas 60 Per Cent

Since the opening of 1932 the East Texas field has dominated drilling operations to such extent that it has furnished 4079 out of 9424 completions in the whole United States, or 43 per cent of the total; while the proportion of productive oil wells that it has supplied has been even higher, the number being 4041 out of the nation's total of 6733, or 60 per cent.

Due to the large volume of activity in East Texas, the above mentioned totals of United States wells drilled in 1932 represent important increases over the totals for the corresponding period of last year. As compared with the 9424 total completions (oil wells, gas wells, and dry holes) drilled during January-August, inclusive, this year, there were only 7476 in the similar period of 1931, the 1932 figure being 26 per cent higher than that of 1931. The 6733 new producing oil wells of this year represent a total 73 per cent higher than the 3880 completed in the corresponding eight months period last year.

As indicated previously, the East Texas field was largely responsible for those increases of activity in 1932 over the 1931 figures. As compared with the 4079 completions in the field for the opening eight months of this year there were only 1710 completions in the similar period in 1931. Thus the field accounted for an increase of 2369 in number of completions for the two periods compared; whereas the United States as a whole did not show so large an increase, the 9424 completions in the 1932 period being only 1948 higher

Summary of United States Drilling and Production, August, 1932

State—	Month of August, 1932 — Completions	Oil wells	Gas wells	Failures	Initial Production Oil	Initial Production Gas*	Total Oil Production†	Cumulative, January through August, 1932 — Completions	Oil wells	Gas wells	Failures	Initial Production Oil	Initial Production Gas*	Total Oil Production†
Oklahoma	121	77	11	33	123,412	522¾	12,607,700	637	357	77	203	532,951	1605¼	103,402,550
Kansas	71	46	3	22	28,163	41¼	2,907,800	354	228	23	103	130,384	332¾	23,748,600
California	26	21	1	4	20,293	25	14,692,450	186	137	7	42	107,553	151	120,500,750
Texas outside Gulf Coast	968	813	15	140	5,528,367	244	21,298,550	5747	4806	106	835	34,028,124	1630¾	180,270,790
Texas Gulf Coast	52	33	1	18	21,666	10	3,809,900	291	160	5	126	109,155	153	27,837,050
Texas Total	1020	846	16	158	5,550,033	254	25,108,450	6038	4966	111	961	34,137,279	1763¾	208,107,840
North Louisiana	36	11	1	24	2,432	5	905,200	176	56	19	101	20,237	156	7,146,475
Louisiana Gulf Coast	14	4	..	10	1,850	..	984,250	107	50	1	56	42,841	4	7,638,150
Total Louisiana	50	15	1	34	4,282	5	1,889,450	283	106	20	157	63,078	160	14,784,675
Arkansas	2	..	..	2	....	..	1,057,100	25	2	..	23	335	..	8,336,250
Rocky Mountain States	17	12	1	4	9,205	9	2,397,850	90	57	9	24	121,354	51	20,230,360
Eastern States	343	205	55	83	15,969	232¼	3,839,350	1811	880	482	449	67,677	1433	29,773,950
Total	1650	1222	88	340	5,751,357	1089¼	66,191,200	9424	6733	729	1962	35,160,611	5497	528,884,925

*Millions of cubic feet.
†Preliminary, subject to revision.

than the 7476 of the previous year. Thus outside of the East Texas field there were declines in drilling, partially offsetting the East Texas increase.

Outside East Texas, in fact, the only major area showing increased field activity was Kansas, where the January-August period of 1932 furnished 354 completions against only 338 in the corresponding period of 1931. Declines were registered for the 1932 period in other areas as follows: Oklahoma from 816 to 637, California from 270 to 186, Gulf Coast of Texas and Louisiana from 479 to 398, North Louisiana from 198 to 176, Arkansas from 64 to 25, and Eastern States from 2043 to 1811.

1932 Production Under 1931

As might be reasonably expected, the decline in United States crude oil production from 563,978,150 barrels for January-August, inclusive, in 1931 to 528,884,925 barrels for the corresponding time in 1932, a decline of 35,093,225 barrels, has come about largely through decreases in the above mentioned states and areas which have shown declines in drilling activity. Practically all areas which experienced lowered field activity also registered declines in production. And similarly, the East Texas field, which showed the outstanding increase in field work also registered the most important increase in production, the first eight months' output increasing by nearly 17,000,000 barrels, from 60,980,350 barrels in 1931 to 77,872,000 barrels in 1932. Occurring as it did, in spite of strict application of proration throughout 1932, the increase in East Texas is explained by the fact that the field did not assume major proportions until after three months of 1931 had passed, and did not reach production levels comparable with those of 1932 until after five months of 1931 were gone.

Declines in the various states and districts for January-August, inclusive, this year as compared with last year, include the following:

Oklahoma from 120,080,000 barrels to 103,402,550 barrels;

Kansas from 26,013,100 barrels to 23,748,600 barrels;

California from 127,633,300 to 120,500,750 barrels;

Texas-Louisiana Gulf Coast from 42,661,550 to 35,475,200 barrels;

North Louisiana from 9,222,600 to 7,146,475 barrels;

Arkansas from 11,095,950 to 8,336,250 barrels; and

Rocky Mountain States from 23,361,900 to 20,230,360 barrels.

The Eastern States, including Michigan, showed a slight increase in production, due to development of new territory in Michigan, the total rising from 26,652,850 to 29,773,950 barrels.

Gasoline Demand *Shows Sharp* Decline in July

H. J. STRUTH
Petroleum Economist

THE decline in gasoline shipments from refineries, following imposition of the federal tax, is revealed by Bureau of Mines' figures for July. The heavy shipments recorded in June, prompted by efforts to stock up in advance to the tax date—June 21—were followed by a drop in sales of about 8,600,000 barrels under the total for June. Comparison with July, 1931, shows that domestic gasoline consumption dropped 20.8 per cent, while the cumulative total has shown a net decline under last year of 7.8 per cent. This marks the first time in the history of the refining industry that gasoline sales have shown a sharp slump at the height of the summer season.

Analysis of refinery data shows that, while there has been a material decline in still runs under last year, operations are still somewhat above the rate that would be consistent with existing market conditions. Refinery gasoline stocks increased from 38,526,000 barrels on June 30 to 38,959,000 barrels on July 31. The increase in stocks was directly due to excessive production, since imports had shown a decline of 1,145,000 barrels. Production, on the other hand, increased to 34,288,000 barrels, from 33,996,000 barrels in June. The yield of gasoline from crude oil increased from 43.4 per cent in June to 44.5 per cent in July. This was accomplished in the face of a drop in still runs of 872,000 barrels, indicating that cracking operations were increased in July. Production of cracked gasoline amounted to 15,205,000 barrels, against 14,444,000 barrels in June.

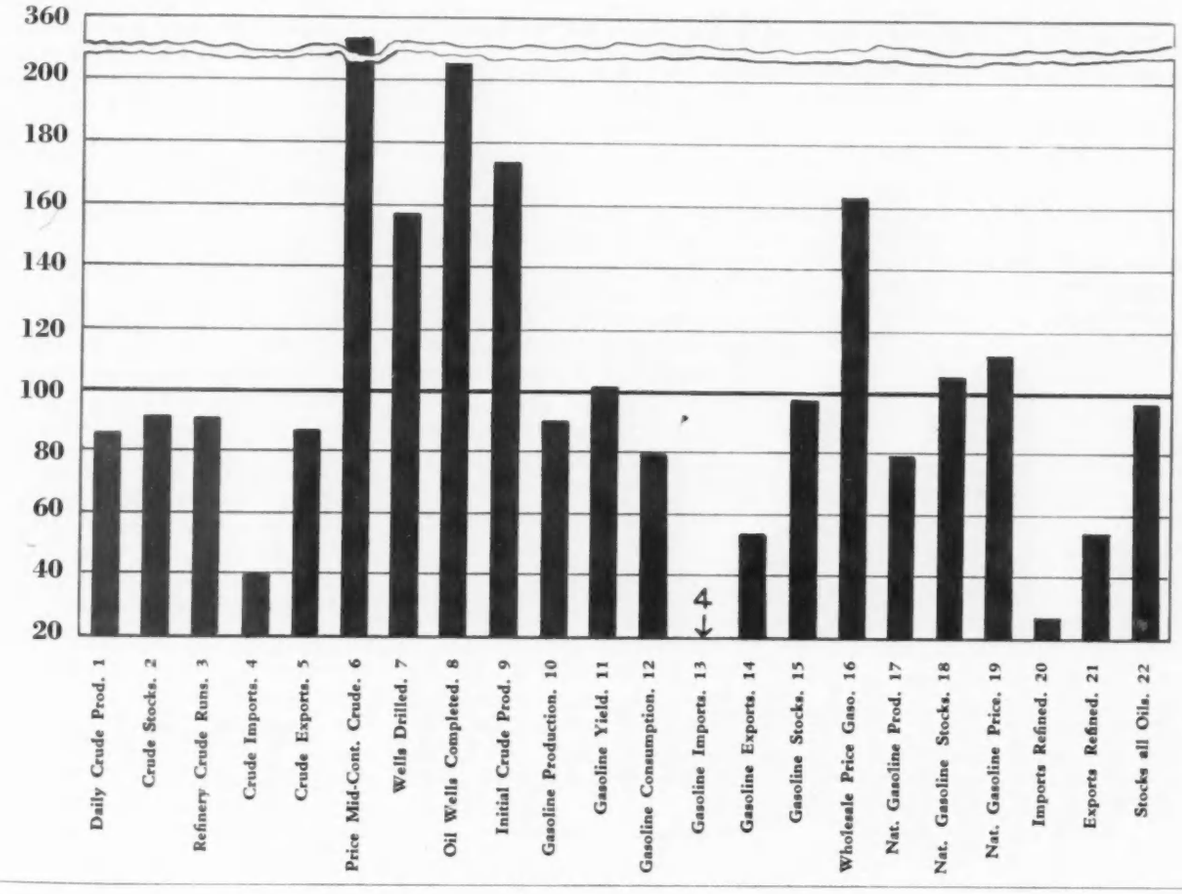
Although overproduction of gasoline continued to exert an unfavorable influence upon the oil situation in July, it is apparent that general economic conditions were conducive to profitable results. Semi-official reports indicate that net results for July were comparable with those made public for the second quarter of this year. Market prices were firm throughout the month, making a favorable showing in comparison with the same period of last year. Crude prices have shown an increase over this time last year of nearly 254 per cent, while U. S. motor gasoline in Group 3 is up nearly 65 per cent over this time last year. The average price of 36 gravity Mid-Continent crude in July, 1931, was only 26 cents, compared with the current price of 92 cents. A similar situation is revealed in the wholesale gasoline market.

Crude Stock Decline

Crude oil production averaged 2,139,000 barrels daily in July, compared with 2,523,000 barrels in the corresponding period of last year. Crude oil stocks on July 31, were nearly 37,000,000 barrels less than the amount in storage on the same date of last year. Gasoline stocks at refineries have only shown a drop under last year of 1.6 per cent, whereas domestic consumption has shown a cumulative decline of 7.8 per cent. While exports of all refined oils have shown a decline of 9.1 per cent, imports have actually increased 2.1 per cent. This condition was brought about through a sharp increase in imports prior to the imposition of the excise tax. The advent of the import tax has, as will be noted by the accompanying barometer, effectively reduced the influx of foreign gasoline. The July figures show that there was a decline, in comparison with a year ago, of 95.8 per cent in gasoline imports.

Steadiness of the crude market has apparently resulted in a resumption of drilling activity. While less wells were drilled in July than in June, the cumulative total for this year shows an increase over the same period of last year of nearly 18 per cent. While the increase of 1,166 wells over last year's cumulative total has been contributed principally by developments in East Texas, it is noted that more activity is being shown in areas outside of East Texas.

Salient Oil Industry Factors for July, 1932, Expressed in Per Cent of July, 1931. Heavy Line (100) Represents July, 1931.



Oil Industry Barometer—July, 1932

Index of Salient Factors—Current and Cumulative

	Factors—	July 1931	July 1932	July Index (1)	7 Months Ending 1931	7 Months Ending 1932	Index (1)
1	Daily Average Crude Production (Thous. Bbls.)	2,523	2,139	84.6	2,352	2,178	92.8
2	Total Crude Stocks (Thous. Bbls.)	395,195	358,385	90.8	395,195	358,385	90.8
3	Refinery Crude Runs (Thous. Bbls.)	79,758	71,455	89.7	518,399	490,613	94.9
4	Crude Imports (Thous. Bbls.)	3,588	1,525	39.5	29,097	33,769	116.1
5	Crude Exports (Thous. Bbls.)	2,621	2,249	85.9	14,474	16,428	112.9
6	Posted Price 36 Gravity Mid-Cont. Crude (Per Bbl.)(2)	$ .26	$ .92	353.8	$ .62	$ .85	137.0
7	Wells Drilled	821	1,286	157.0	6,598	7,764	117.9
8	Oil Wells Completed	469	969	206.2	3,359	5,511	164.1
9	Initial Crude Production (Thous. Bbls.)	2,720	4,702	173.1	12,613	29,409	233.9
10	Gasoline Production (Thous. Bbls.)	38,440	34,288	89.0	250,301	234,543	93.6
11	Gasoline Yield—Average Per Cent of Crude (4)	44.2	44.5	100.6	43.5	44.0	101.2
12	Domestic Gasoline Consumption (Thous. Bbls.)	39,459	31,317	79.2	231,146	213,102	92.2
13	Gasoline Imports (Thous. Bbls.)	1,528	64	4.2	8,561	7,698	88.6
14	Gasoline Exports (Thous. Bbls.)	4,473	2,363	52.9	28,256	23,614	83.9
15	Gasoline Stocks at Refineries (Thous. Bbls.)	39,558	38,959	98.4	39,558	38,959	98.4
16	Refinery Price U. S. Motor Gaso.—Group 3 (Cents)(2)	2¾	4½	163.8	3⅓	4⅛	125.8
17	Natural Gasoline Production (Thous. Bbls.)	3,569	2,812	78.8	26,938	21,493	80.0
18	Natural Gasoline Stocks (Thous. Bbls.)	3,711	3,890	104.9	3,711	3,890	104.9
19	Price Grade "A" Natural Gasoline, Group 3 (Cents)(3)	2⅛	2⅜	111.8	2⅝	2	75.0
20	Imports of All Refined Oils (Thous. Bbls.)	3,435	897	26.2	22,719	23,173	102.1
21	Exports of All Refined Oils (Thous. Bbls.)	9,135	4,928	54.0	60,105	48,451	80.9
22	Total Stocks of All Oils (Thous. Bbls.)	649,161	627,287	96.8	649,161	627,287	96.8
	Weighted Index of Supply	...	...	71.3	...	...	96.4
	Weighted Index of Demand	...	...	72.3	...	...	92.9
	Weighted Index of Prices	...	...	209.8	...	...	112.6

(1)—Last Year—100.
(2)—Weighted Average. (3)—Monthly Average.
(4)—Straight run and cracked gasoline only.

Government Wells *Proving* *Profitable* Oil Reservoir

RICHARD L. MANNEN
Consulting Geologist
and
EARL S. POST
Staff Representative

MANY oil men have expressed the opinion that the next real activity from an exploration and exploitation standpoint will occur in South or Southwest Texas. The vast area, already widely spotted with small but prolific pools, is a wildcatter's paradise, and while the area may never develop a producing field of the proportions of East Texas production, it is easily a suitable contender for probable recovery honors with that area.

Many new pools have been found in South Texas since the first of this year and it is a rare occurrance when a week passes without the discovery of new production or a substantial extension to existing fields.

Due to the future importance as well as the present activity of the district, The OIL WEEKLY, through the cooperation of several geologists, is presenting a series of articles dealing with the individual as well as general characteristics of this vast domain.

A PROLIFIC oil area, which ultimately will recover millions of barrels, is being developed in the northern portion of Duval County in the sector known as the Government Wells District. Four pools are now in the process of development, a fifth virtually proven and an extensive wildcatting campaign is being conducted along a 25-mile trend from the northern county line south and slightly west.

And this district becomes more attractive due to the inexpensive operating costs, high recovery and excellent market for production at reasonable prices. A dry hole, including purchase of lease, might be drilled for less than $5,000; while a producer, with complete equipment, may be sunk for $6,700 to $8,600.

This particular area has been most kind to the wildcatter, in many cases enabling a person operating on a "shoestring" to obtain a handsome income and in many cases small fortunes. Most of the discoveries through this particular area, including the new fields and their extensions, have been made by independents and with small investments.

The most interesting play in the Government Wells district at this time is in the North Government Wells, which is located less than one mile north of Freer and about 30 miles west of the town of San Diego. The latter town might well be termed as the nearest point to civilization, for it is necessary to cross large ranches on a narrow dirt road for the distance. Cattle guards every mile or so on this road indicate pasture partitions.

The entire area is covered with cacti, mesquite and thick brush, spotted here and there with small tanks to provide water for the thousands of cattle roaming the country side. Now and then, there is a small plot of land under cultivation, providing a little cotton and corn.

The outcrop between the town of San Diego and the field is almost entire Reynosa. Then, a narrow strip of Oakville projects, with the Catahoula and Frio being the general surface formation the remainder of the distance to the western county line.

Lack of conformity in the surface formations makes it of little geological value in the North Government Wells area, as practically all geology is hidden by the Reynosa formation overlap. Dips and strikes cannot be taken with any accuracy and cross bedding predominates throughout the Reynosa formation. The thickness of this formation averages from 10 to 100 feet in this area and is composed of sand, cross bedded sandstones, reddish sandy clays and caliche.

Underlying this Reynosa overlap is the Catahoula tuff or Gueydan formation (Oakville general series), which has a total thickness of approximately 945 feet. This formation is composed of pyroclastic material, or volcanic debris, consisting of ash, bentonitic clay, sand, gravel, and volcanic tuff. The age of this formation is the Upper Oligocene.

The producing levels already proven in the field are the Cole sand (1550-1650 feet) at the base of the Frio clay and the top of the Fayette or Jackson; second producing level the Government Wells from about 2200 to 2350 feet. The latter horizon is divided into several parts. The main oil horizon is at the bottom of the latter series, varying in depth to 40 feet and frequently broken by a series of shale. There is a lenticular situation particularly prevalent in the North Government Wells field, showing gas and oil, which overlies the regular horizon from 20 to 80 feet. It has been noted in several instances that oil production is coming from the upper sand lens, while in other cases, the upper Government Wells horizon is producing gas.

General Area

To really get an idea of the possibilities of this particular district, it is well to compare with areas throughout the Mirando district. These pools, while similar from a geological standpoint, are finding their oil and gas in at least seven sand zones, ranging from the upper Jackson (or Cole) to the Claiborne. Some of these sands are lenticular. Structures are very similar throughout the area, as pools are located on low flat folds of various sizes, generally cut by faults on the west and northwest sides. Production is due to the existence of closure along the faulted structures and to accompanying sand lensing.

The above condition with its many production possibilities is largely responsible for the fact that this strike through several counties comprising the Mirando District continues its unusual activity after 10 years or more of wildcatting and field work.

The possibility of production at frequent intervals along the trend makes a small block of acreage with a 2500-foot drilling obligation rather attractive. For instance, an operator secures upward of 400 acres in the direct trend of production. He possibly gets a full section (640 acres). A 112-foot derrick, customary, and sufficient to handle fourbles, is erected. A fair sized rig with a couple of boilers is then set up. The next step frequently proves a more or less difficult one—water. Shallow water wells oftimes are not sufficient, but due to the fact that this is cattle country, it is sometimes possible to run a two-inch water line to some watering tank not more than a few thousand yards away.

Fuel is really not a worry in the Government Wells area, small gassers are found in the wildcat territory. In addition, gas pipe lines criss-cross the

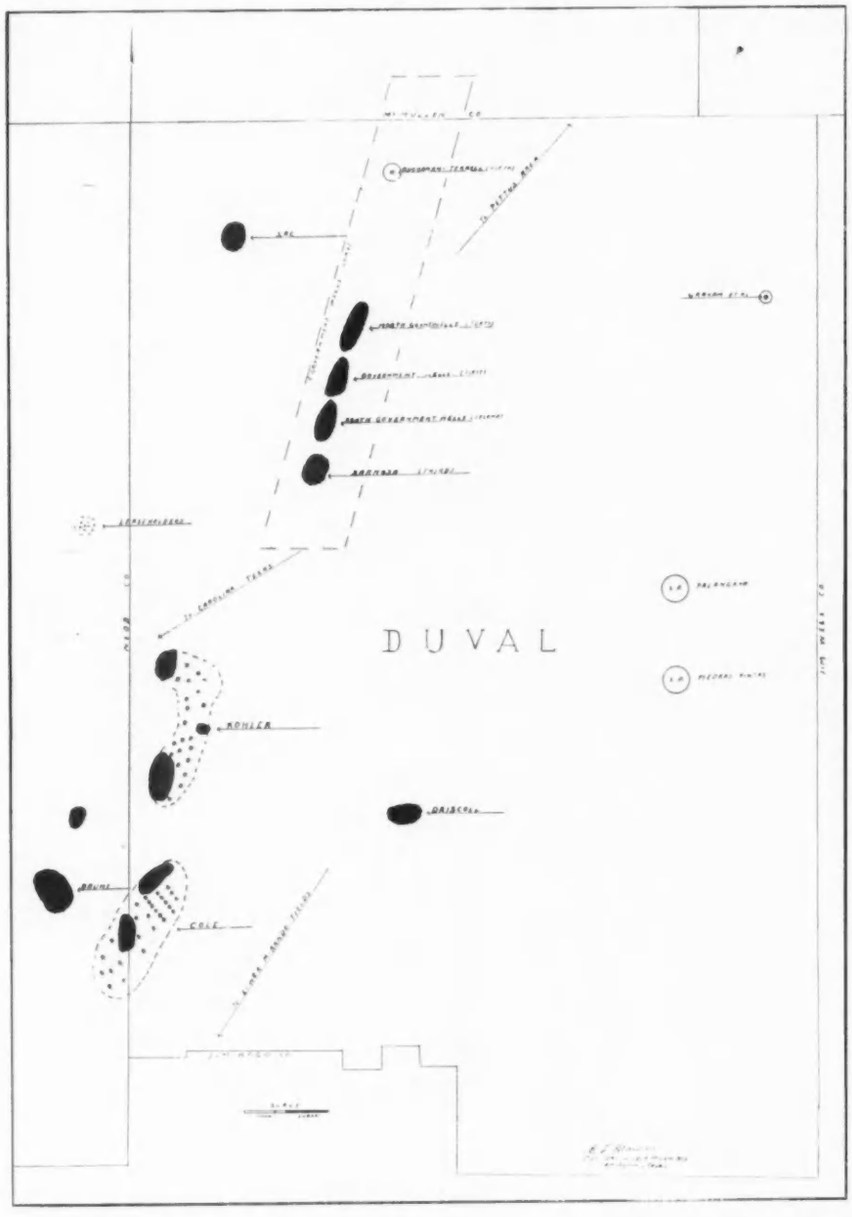
country. Where gas is not available, oil can be hauled from nearby fields at a comparatively low cost.

Ordinary 10-inch surface pipe is set in wildcats and field operations. Sometimes, shallow sands (above Cole series) are cored in wildcats, frequently showing gas. The Cole sand is always cored in wildcats and generally an interesting core is given a drill stem test. If it is sufficiently promising, the well is completed at this level. The next series is Government Wells, including both gas and oil, which is tested if the Cole fails to produce. Sometimes, the well is abandoned if these levels fail; the Mirando City sand, productive in other parts of the territory, including the SRC pool in northwestern Duval County, may then be tested.

A string of 6⅝-inch casing is generally set to the top of the sand. Sometimes wildcats set 6⅝-inch casing top the first horizon, test it, drill to the second and set 5-3/16-inch pipe. Tubing is then run, Christmas tree hooked up to handle probably 1000 pounds pressure, separate tank battery built for each well. Sometimes a gas separator is necessary. The wells are flowed on small chokes in most cases.

Operators generally can get a well drilled for $1.50 per foot, which, figuring the above equipment, indicates the low operating cost.

Returns on the investment are very high. The oil, 22.7 degrees gravity, commands a posted price of 80 cents per barrel.



General map of Duval County, showing oil fields in solid black and gas fields spotted. The area enclosed in the dotted line (marked Government Wells Zone) indicates present play and is the area covered in the accompanying discussion.

Acreage Division

The North Government Wells field, due to the fact that it is cut into many small pieces and is divided among nearly a score of operators, makes it probably the most interesting strike along the Government Wells trend. Magnolia Petroleum Company and San Diego Oil Corporation own the bulk of choice stuff. Others in the field's proven area are: W. P. Luse, Buchanan & Terrell (Sun block), The Texas Company, John S. Norwood, Anderson et al, George Parr, Southwest Drilling Company, Seacord et al, Trenchard-Whisenant-French, Windsor Oil Company, H. H. Coffield and R. B. Byrd. Highland Oil Company (McDowell) has started a well one-half mile north of production, which probably will make a producer and place several more operators in the play.

Since the discovery of production in the Government Wells horizon on May 29, 1932, there have been approximately 50 wells drilled in the field, practically all producers. With this much work done in three months and only a small portion of the field now defined, there is little doubt but what this number will be doubled before the first of the year.

Trend and faults have generally been the controlling factor in wildcatting in this portion of the state, hence, when Seacord, Putnam and their associates drilled Johnson 1, NW NW Section 44, they were playing the fault controlling the Government Wells field three miles to the south and west. On the same day, Suttle et al spudded O. Bennett 1, center of the same section and about one half-mile southeast of the Johnson well. The latter well shut down temporarily while the Seacord organization carried down its well.

On March 14, 1932, the first test encountered a sand at 1575 feet and after drilling one foot, on April 6, a 10,000,000-cubic foot gasser with a slight spray of oil was completed, opening another field. The string of 6⅝-inch casing was set in the hole to 1566 feet.

Drilling was resumed on the Bennett well, which showed little oil and gas in the Cole sand from which the Seacord well was producing. This horizon was logged from 1609-11 feet. The top Government Wells sand was then found at 2309-16 feet, testing an estimated 5,000,000 cubic feet of gas. The regular Government Wells horizon was then topped at 2328 feet and a 15-inch core taken to 2328 feet, at

which depth it was completed for 90 barrels of 22.7 gravity crude hourly through a one-inch choke.

Seacord and Putnam's shallower producer recently was deepened to the regular horizon, and is an average sized producer. This is indicative of further production in both horizons.

The Texas Company's W. C. Riggs 2, Section 46, in the southern portion of this field, opened an oil level in the field when it produced 480 barrels on choke from 2269-79 feet. This production is likely coming from a sand lens just above the regular oil horizon, as is logged in numerous wells. The lens is to the south and east of the other oil production and possibly will carry the field several more locations eastward.

Fault and Sharp Folds

The controlling geological features of the North Government field are a fault and sharp folds. The fault has a strike of approximately north 29 degrees east with the upthrow side to the southeast. The displacement, while it has not been definitely determined, likely is upward of 100 feet. The Government Wells area to the southwest has a displacement of 170 feet. The subsurface fault in the 2300-foot sand likely enters the North Government Wells field at the southwest corner of Section 45 and leaves the known field approximately 1000 feet east of the northwest corner of Section 42. The geological high closes to the south against the fault in the middle of Survey 45. Just how far north the producing area will extend is problematical, as no drilling has been done to the north of Buchanan and Terrell's Ellison producers, present north outpost wells. They are excellent producers, however, and apparently are not too low on the structure to prevent further production in a northward trend.

Output Prorated

Through an order issued by the Texas Railroad Commission, this field operates under proration with a maximum output of 150 barrels daily per well. This is on the basis of 40 barrels per well base and allowance for area drained. Wells on one- to four-acre tracts, inclusively, nine barrels per acre; wells on five to nine acres, inclusive, 10 barrels per acre; wells on 10 acres, 11 barrels per acre. This also affects Sarnosa, the southernmost pool.

Wells in the old Government Wells field, having been so far developed, is operated under a different plan, the wells being allowed a base of 200 barrels of oil daily with an oil-gas ratio of 1250 cubic feet of gas per one barrel of fluid and a maximum gas output of 250,000 cubic feet. Any well producing about 1250 cubic feet of fluid must provide some non-waste method of disposal, which means the sale of the gas. Wells in this field must be equipped with meters and charts must be preserved for the inspection of the railroad commission.

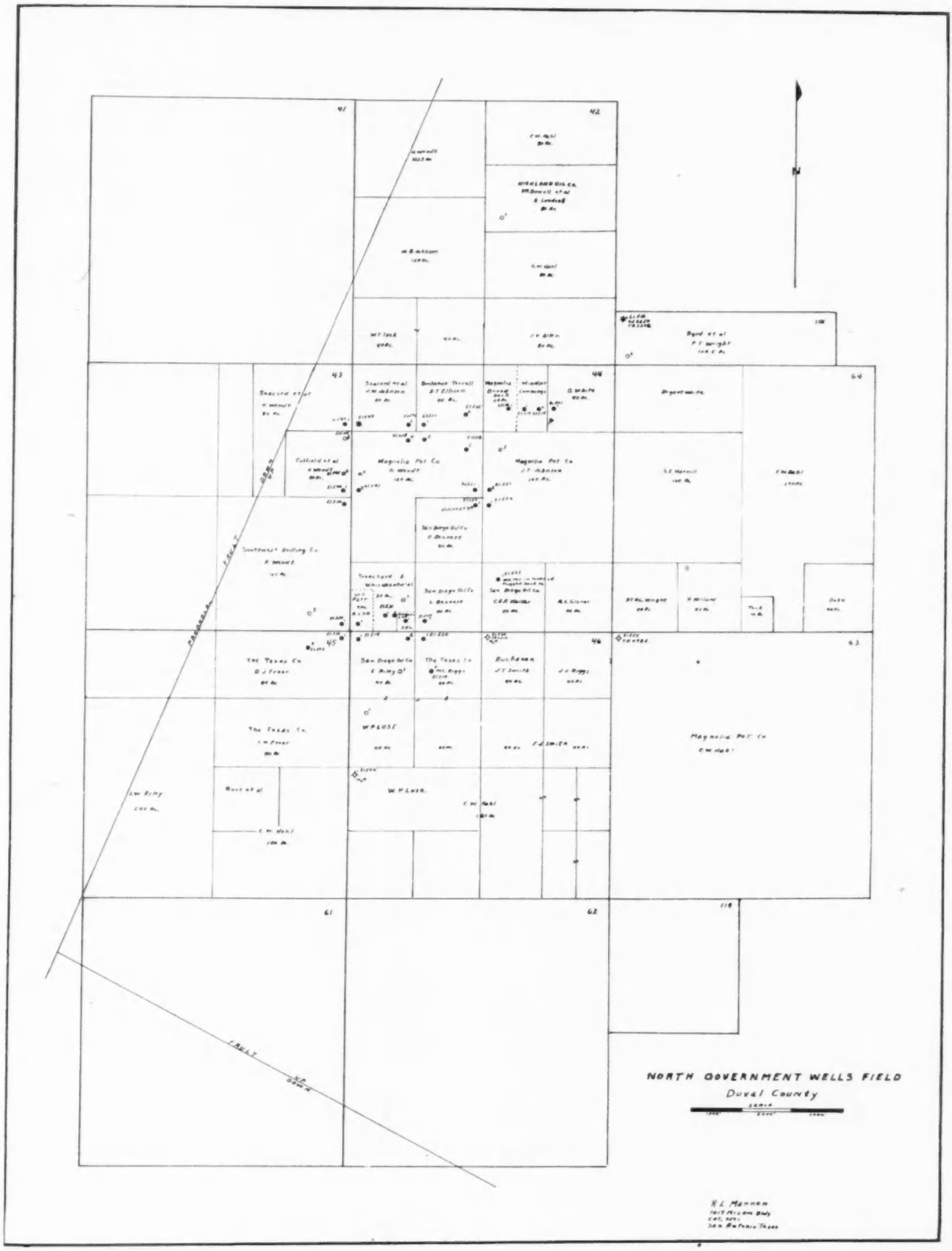
Oil from this field is being taken by Magnolia Pipe Line Company, which has extended its line from the lower Government Wells pools to the new producing area. The company recently placed its Fant City Booster Station in operation, increasing the pipe line outlet nearly 12,000 barrels daily and enabling it to take all of the production from the area.

The Government Wells district was opened in 1926, but its first real development was delayed until August, 1928, when the oil production was discovered. A southern extension to the field was then discovered by the Schoolfield-O'Byrne organization on December 16, 1930. The extension pool was for a long time called by this name. The Schoolfield-O'Byrne properties (now Duval Oil Corporation) consisting of 320 acres in Section 135, are an excellent example of the recovery to be expected from this area. The first well, completed December 16, 1930, showed an initial flow of 1400 barrels. Eleven wells were drilled on the lease, 10 of which have been oil producers. The most recent producer was finished June 6, 1932, showing 200 barrels initial on 3/16-inch chokes. To September 1, this year, the lease had recovered 654,544.63 barrels, or better than 65,000 barrels average per well. The average thus far has been about 200 barrels daily per well with favorable indications for the continuation of this level. At that rate, it is not at all improbable but what the first producer has recovered around 125,000 barrels.

The excellent recovery and inexpensive drilling has been the incentive of many to continue prospecting in this

Composite Chart North Government Wells Field
DUVAL COUNTY

COMPANY	Lease	Location	Well	Elev.	Top Cole	Top Gov't.	Total Depth	Initial Production
Anderson et al	E. Riley (3 acres)	Sec. 44	1	535	.....	2303	2309	200 Bbls.
Byrd et al	P. T. Wright	Sec 101	1	512	1552	2288	2289	Show sw /plugged to 2250/ now gas.
Byrd et al	P. T. Wright	Sec. 101	2	.....	.....	.....	.....	Drilling
Buchanan & Terrell	B. T. Ellison (Sun)	Sec. 44	1	531	.....	2287	2301	1000 Bbls.
Buchanan & Terrell	B. T. Ellison (Sun)	Sec. 44	2	535	.....	2280	2292	1000 Bbls.
Buchanan & Terrell	J. T. Smith (Sun)	Sec. 46	1	530	.....	2308	2312	Dry & Abnd.
H. H. Coffield et al	H. Wendt.	Sec. 43	1	540	.....	2274	2278	245 Bbls. ¼ choke.
H. H. Coffield et al	H. Wendt	Sec. 43	2	545	.....	2277	2298	840 Bbls.
H. H. Coffield et al	H. Wendt	Sec. 43	3	545	.....	.....	.....	Drilling
Highland Oil Co	A. Lundvall	Sec. 42	1	.....	.....	.....	.....	Drilling
W. P. Luse et al	E. Riley	Sec. 46	1	.....	.....	.....	.....	Drilling
W. P. Luse et al	C. W. Hahl	Sec. 46	1	504	.....	2288	2295	Dry & Abnd.
Magnolia Pet. Co	J. T. Johnson	Sec. 44	1	556	.....	2329	2331	1500 Bbls.
Magnolia Pet. Co	J. T. Johnson	Sec. 44	2	551	.....	2326	2335	1200 Bbls.
Magnolia Pet. Co	J. T. Johnson	Sec. 44	3	534	.....	.....	.....	Drilling
Magnolia Pet. Co	G. Wendt	Sec. 44	1	551	.....	2319	2322	625 Bbls.
Magnolia Pet. Co	G. Wendt	Sec. 44	2	541	.....	2300	2302	425 Bbls.
Magnolia Pet. Co	G. Wendt	Sec. 44	3	534	.....	2289	2293	450 Bbls
Magnolia Pet. Co	G. Wendt	Sec. 44	4	538	.....	2288	2297	450 Bbls.
Magnolia Pet. Co	G. Wendt	Sec. 44	5	528	.....	2287	2294	450 Bbls.
Magnolia Pet. Co	G. Wendt	Sec. 44	6	.....	.....	.....	.....	Drilling
Magnolia Pet. Co	G. Wendt	Sec. 44	7	.....	.....	.....	.....	Location
Magnolia Pet. Co	C. W. Hahl	Sec. 63	1	555	1670	2283	4982	Dry & Abnd.
Magnolia Pet. Co	Broadbeck	Sec. 44	1	524	.....	2286	2292	840 Bbls.
Magnolia Pet. Co	Broadbeck	Sec. 44	2	.....	.....	.....	.....	Drilling
Magnolia Pet. Co	Bryant White	Sec. 44	1	521	.....	2296	2306	500 Bbls.
Seacord-Putman et al	J. W. Johnson	Sec. 44	1	549	1564	2303	2313	350 Bbls.
Seacord-Putman et al	J. W. Johnson	Sec. 44	2	541	.....	2289	2308	300 Bbls.
Seacord-Putman et al	H. Wendt	Sec. 43	1	547	.....	2279	2288	600 Bbls.
San Diego Oil Co	O. Bennett	Sec. 44	1	557	1603	2328	2329	800 Bbls.
San Diego Oil Co	L. Bennett	Sec. 44	1	540	.....	2317	2327	200 Bbls.
San Diego Oil Co	C. & R. Hellar	Sec. 44	1	536	.....	2332	2340	Dry & Abnd.
San Diego Oil Co	E. Riley	Sec. 46	1	514	.....	2283	2296	200 Bbls.
San Diego Oil Co	E. Riley	Sec. 46	2	529	.....	2291	2301	200 Bbls.
San Diego Oil Co	E. Riley	Sec. 46	3	.....	.....	.....	.....	Location
Southwest Dr. Co	R. Wendt	Sec. 43	1	520	.....	2282	2291	1200 Bbls.
Southwest Dr. Co	R. Wendt	Sec. 43	2	536	.....	2288	2300	720 Bbls.
Southwest Dr. Co	R. Wendt	Sec. 43	3	.....	.....	.....	.....	Location
The Texas Co	D J. Freer	Sec. 45	1	510	.....	2278	2293	1560 Bbls.
The Texas Co	D. J. Freer	Sec. 45	2	503	.....	2285	2302	800 Bbls.
The Texas Co	W. C. Riggs	Sec. 46	1	530	.....	2302	2312	500 Bbls.
The Texas Co	W. C. Riggs	Sec. 46	2	510	.....	2269	2279	480 Bbls.
Trenchard-Whisenant	C. W. Hahl	Sec. 44	1	531	.....	2302	2312	1000 Bbls.
Trenchard-Whisenant	C. W. Hahl	Sec. 44	2	533	.....	2302	2312	1800 Bbls.
Trenchard-Whisenant	C. W. Hahl	Sec. 44	3	.....	.....	.....	.....	Drilling
George Parr et al	Benavides School District	Sec. 44	1	.....	.....	.....	.....	Temp S/D
Windsor Oil Co	L. L. Cummings	Sec. 44	1	519	.....	2287	2300	960 Bbls.
Windsor Oil Co	L. L. Cummings	Sec. 44	2	514	.....	2289	2298	1728 Bbls.


NORTH GOVERNMENT WELLS FIELD
Duval County
N

line of play. For instance, another pool is apparently in the making as a result of the strike by Buchanan and Terrell in Hagist 1, located 1320 feet out of the southwest corner of Section 267 and near the McMullen line. It is seven and one-half miles northeast of the furtherest north production in the North Government Wells field.

The wildcat flowed about 6,000,000 cubic feet of gas and sprayed a little oil from the regular Government Wells sand. It, however, was sunk to 2505 feet, tested salt water and was abandoned. The show brought several more wildcats to the Hagist ranch, including a second test by the Buchanan and Terrell concern.

The well topped the Cole horizon at 1449 feet, high, but corresponding to Government Wells. It then showed gas at 2110-22 feet in sand, shale at 2122-34 feet, oil at 2134 feet to the completed level of 2144 feet.

The present play, as can be noted from field and wildcat operations, is limited to the two levels with a maximum depth of 2500 feet. Wildcatting by Magnolia Petroleum Company, which has much acreage in this sector, showed excellent possibilities in the lower sands. These wells are in key locations and will throw a great light on the future deep possibilities, several of them going to 5000 feet or lower.

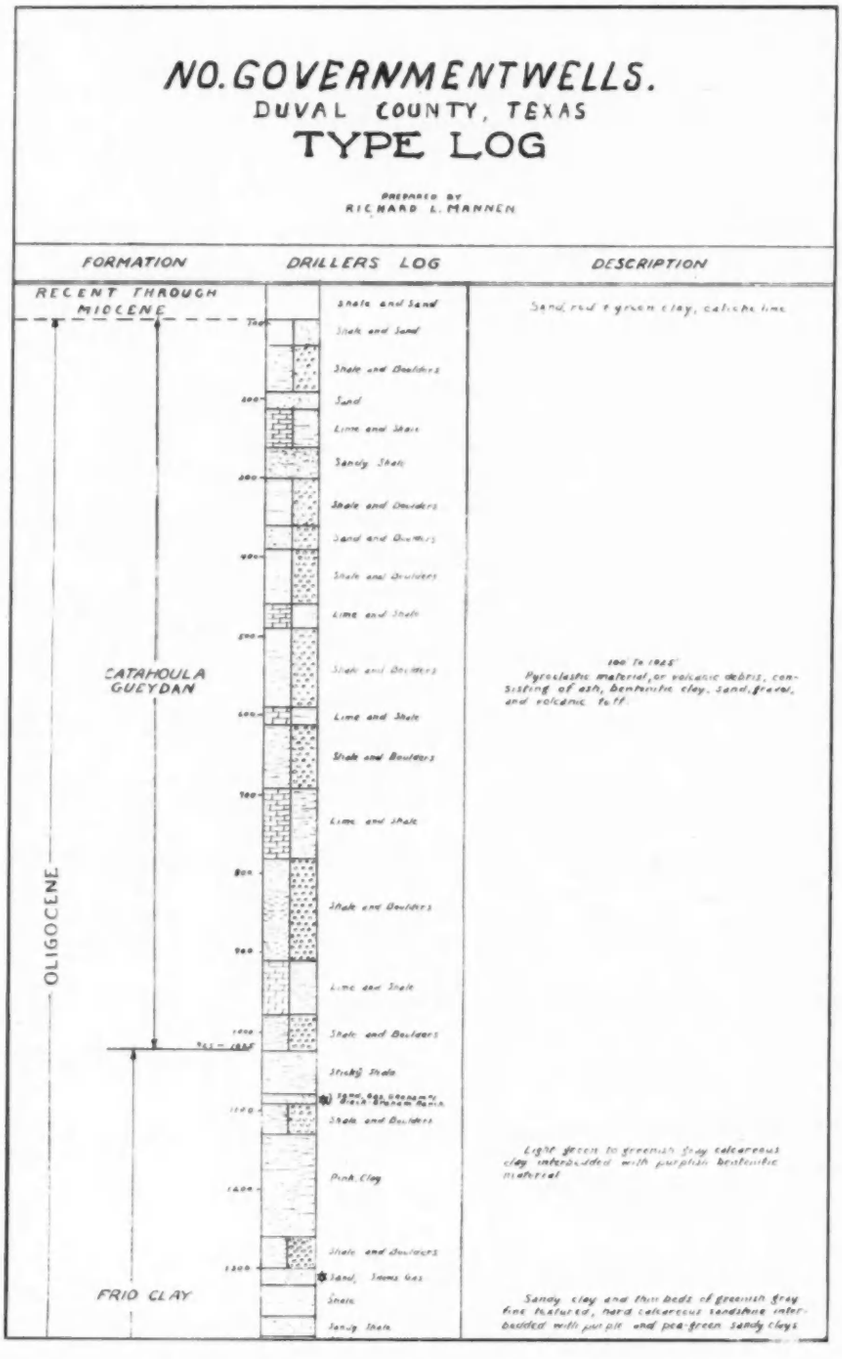
Just two miles due west of the field, Magnolia Petroleum Company's C. W. Hahl 1, Section 51, showed salt water in the Government Wells sand at 2339-51 feet, but picked up a sand at 4080-94 feet in the Claiborne, which developed a small gas well and a little oil. The production was never worked out.

Another important test was Magnolia Petroleum Company's Edge-Hahl 1, located in the northwestern corner of Section 61 and just out of the North Government Wells' producing zone. The well has an elevation of 556 feet and was abandoned at 4819 feet. It topped the Cole sand at 1759 feet; the Government Wells sands at 2241-56 feet and 2383-94 feet. Other sands were as follows: 2859-65 feet, 2881-86 feet, 3229-33 feet, 3353-77 feet, 3490-3502 feet, 3685-3706 feet, 3805-14 feet and 4040-55 feet, indicating the number of possible "pay-offs."

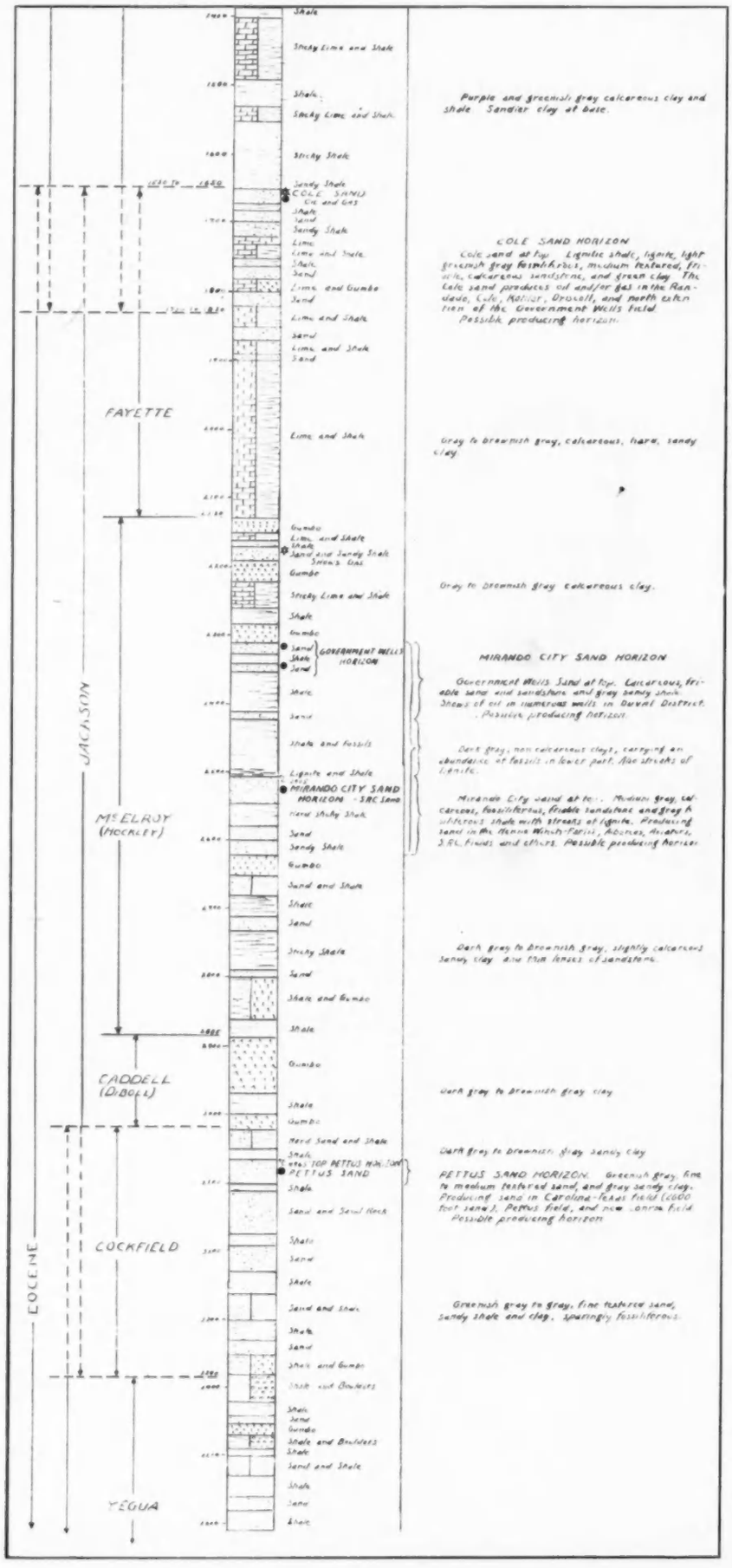
To return to the geological discussion of the district, we find that below the Catahoula lies the Frio formation of the lower Oligocene age. This formation has a total thickness of 675 feet. The upper portion of the Frio is composed of greenish gray to green calcareous clay, interbedded with bluish bentonitic material. The lower portion of the Frio is made up of hard calcareous sand stone, interbedded with purple and pea green sandy clay, also beds of sandy clay with fine texture. The base of the Frio grades into greenish gray and purple calcareous clay and shale, with sandier clay at the bottom.

Lying below the Frio is the Jackson series of the Eocene age. This formation is approximately 1835 feet thick in the North Government Wells area. It should be divided into four zones, as described in the following:

1. *Fayette.* This horizon is also known as the Cole sand horizon and is used as a correlation datum plane by the oil industry. The Cole sand lies at the top of the Fayette and was encountered in Seacord & Putnam's Johnson 1 (first well) at 1575 feet. This sand produces oil or gas or both in the Randado, Cole, Kohler and Driscoll fields. The upper half of this horizon consists of sand, lignitic shale, lignite, light greenish gray fossiliferous, merium grained, friable, calcareous sand-



Typical Log of Government Wells District is composite of about 200 logs of wells drilled in the district.



stone and green clay. The lower portion consists of hard, gray to brownish sandy clay. This horizon has a thickness of approximately 480 feet.

2. *McElroy or Hockley.* This horizon was encountered in Byrd et al's P. T. Wright 1, Section 101, at 2032 feet, from this depth to 2212 feet, consisted of brownish to gray calcareous, hard, shale, sand and sandy shale. At 2295 feet, the formation consisted of limy shale, sand and sandy shale. At 2295 feet this test topped the regular Government Wells horizon. There have been no tests in the actual producing area of this field taken to the lower levels, but information compiled from other deep well logs indicates that approximately 155 feet below the Government Wells horizon will be encountered the Mirando City sand. This sand is producing at the Mirando City pool, Aviators, Albercas, Henne-Winch-Fariss and SRC pools. Below the Mirando City sand will be found brownish gray to dark gray, slightly calcareous sandy clay and thin lenses of sandstone for a distance of 385 feet, more or less, to the third zone of the Jackson.

3. *Caddell or Diboll.* This horizon is not productive for either oil or gas, but is used for a correlation point, and is easily established by paleontology. The lithology of this zone consists of dark gray to brownish gray clay and has a thickness of about 130 feet.

4. *Cockfield.* This horizon has a thickness of approximately 365 feet and consists of greenish, gray, fine to medium grained sand, and gray sandy clay. Approximately 45 feet from the top of the Cockfield is found the Pettus sand. This sand is producing in the Pettus district, Conroe and Carolina-Texas (2600-foot sand) fields. Pettus sand likely will be found about 3000 feet in the Government Wells area.

By going through the logs of deep wells drilled in the immediate vicinity of the North Government Wells field, we see that there is a possibility of production below the present 2300-foot level. The history of the oil and gas fields throughout this district eventually develop deeper production. This is true from the Mirando district to Raccoon Bend (boundaries of South Texas).

North Government Wells, despite its unusually large number of completions, is still too young to place a valuation upon producing properties; but, the term of the wildcatter can well be used: "It is mighty valuable." And, this applies to the entire Government Wells zone.

Oklahoma Natural Gas *Makes* Changes, Promotions

PROMOTIONS and transfers of nearly a dozen employes of the Oklahoma Natural Gas Corporation have been announced by the management, according to R. S. Huffman, in charge of personnel.

L. A. Farmer, who for some time served as assistant chief engineer, has been placed in charge of gas purchases and system load dispatching. Farmer has been associated with the gas company for more than 11 years and has served in practically every capacity in the operating department. In his new position he will deal directly with more than 1100 Oklahoma producers from whom the company buys gas.

W. A. Hazard, formerly superintendent of the central transmission division, will take Farmer's place as assistant to B. L. Maulsby, the chief operating head. Hazard has been with the company 14 years and likewise has served in every operating capacity.

Lee Prokop, with a 16 year service record, will assume the duties formerly performed by Hazard. His headquarters will be in Tulsa. Appointment of Noble Nordahl as superintendent of the Bearden field completes the changes in the transmission division.

The post of maintenance and construction superintendent for the entire system will be assumed by W. G. Van Arsdale, who in his new capacity will assist all division heads with jobs of major importance.

In the compressor station division, T. L. Padden of Tulsa will take direct charge of the important large station at Kellyville and E. E. Ragan, chief engineer at Kellyville goes to the Bixby station, and Claude E. Myers, chief engineer at Bixby will take a similar post at Red Bird station.

Three changes were made in the distribution division. A. F. Deen leaves Tulsa for Oklahoma City to assume the duties of distribution superintendent there. T. A. Wood, who had charge of Oklahoma city's distribution, goes to Tulsa in a similar capacity. Both are men of many years experience.

J. E. Minso, who has served nearly 27 years in the Tulsa district, becomes superintendent of the Muskogee and Okmulgee districts.

W. A. HAZARD

L. A. FARMER

Texas Orders Gas Wells In Panhandle Area Closed

Austin, Texas.—First steps in prevention of waste of the vast gas resources of the Texas Panhandle was taken by the State Railroad Commission September 8.

An order was issued shutting in several wells in the eastern portion of the West Panhandle field, and reducing the take to four per cent of the potential for the remaining producers. Exception of some wells in the area to be shut in was permitted, as these are required to supply gas to nearby towns. However, this provision is temporary, pending a determination of whether or not they, also, may not be closed down.

The commission was faced with the proposition of closing in the wells or issuing permits to extract gasoline from the sweet gas in this area. Had they pursued the latter course, millions of feet of residue gas would have been wasted daily, as there is no pipe line outlet for it, and the major pipe line companies have refused to purchase any of this production.

For more than six months the matter has been under consideration by the commission and several hearings have been held on the question. Efforts were made to unitize the gas producing area and work out some equitable system of prorating the production from the entire area. This plan has met with much opposition, as it was pointed out that considerable offset drilling would result.

It is understood that under the order as issued by the commission, wells offsetting shut-in producers and undrilled productive leases will be the only ones affected at the present time.

Continue Texas Gas Rate Hearing at Austin

Austin, Texas.—Hearing on the rate increases of the Community Natural Gas Company, applying to 89 small cities through North Central Texas, was held in Austin on Monday and Tuesday.

Karl Griffith, vice president of Lone Star Gas Company, declared that as the rates were already in force at the present time, the burden of proof was on the commission to show that they are unreasonable. However, he volunteered to present the evidence prepared by the company if the commission insisted.

Griffith placed D. A. Hulcy, chief comptroller for the affiliated companies, on the stand. His testimony indicated that the reason for the recent increase was a constantly declining return from the operation of these properties during the past 2½ years.

As the hearing closed, the commission announced that they will employ their own engineers to evaluate these properties before the case is again set down.

The hearing rose out of a controversy between the commission and Community Natural Gas Company which arose some two months ago. When the gas company announced the increase in rates from 67½ cents to $1.50, the commission obtained an injunction against their enforcement.

The gas company, however, obtained a vacating order, upon posting a $25,000 indemnity bond to insure consumers that their money would be returned if it was later determined that the present rate is unreasonable.

MARKETS — STATISTICS

East Texas Purchasers Will Take 50 Barrels Set by Commission Order But will Pay for Only Half, Expected to Upset Connection Arrangements. Mid-Continent Stocks Depleted. California Allowable Cut.

Humble Will Buy Half and Store Half in East Texas

HUMBLE Oil & Refining Company has announced that effective September 12 its takings from controlled and outside properties in the East Texas field will be increased from 43 to 50 barrels daily so as to conform with the Texas Railroad Commission's recent order but will only purchase half, or 25 barrels daily per well from outside connections. The remainder will be stored for the account of the producer at a monthly storage rental of two cents per barrel. This oil purchasing policy is interpreted in some circles as an indication that officials of Humble Oil & Refining Company are anticipating an early break in the price structure. It is also generally predicted that many independent producers now served by the company will sever connections and hook up with independent crude buyers who are paying about one-third of the posted price and less. This shift would be necessary for many operators having financial obligations that are in excess of returns to be had through the sale of only 50 per cent of their allowable production. It will not be possible to split the connection with other pipe line companies.

The 50-barrel well quota authorized by the commission has provided a surplus of crude over requirements of companies that have held off in obeying the order. Royalty interests and owners of oil payments are threatening court action against companies that fail to increase their oil takings to 50 barrels and the purchasing companies have countered with the part payment and storage plan in Panhandle and North Texas but can't conform.

Crude Production Takes Sharp Rise During Week

CRUDE oil production of the United States rose sharply during the week ended September 10, reaching its highest level since early August, and exceeding the average daily output of the previous week by almost 25,000 barrels, the new average being 2,140,445 barrels daily.

Oklahoma and Texas figured most conspicuously in the production increase, and in those states the Oklahoma City field and the Gulf Coast district, respectively, were the chief disturbing factors.

Despite a 15,000-barrel jump in Oklahoma City's daily average output, the state's increase was held to 12,000 barrels with the aid of a 4000-barrel drop in the Seminole area.

The increase of over 8000 barrels in Texas average daily production to 875,400 barrels for the week ending September 10 was caused largely by a rise of 7300 barrels for the Gulf Coast district. The coastal increase, in turn, was due mainly to the current temporary suspension of production restriction in the new Conroe field, Montgomery County. The Texas Railroad Commission some time ago issued a conservation order for that area, including not only rules governing drilling and production operations but also setting up a production proration program, fixing allowable output; but a flaw having occurred in the notice sent out by the commission in calling the hearing on which the order was based, it was deemed advisable to hold a new hearing in regard to production restriction although continuing the field rules in effect. The new hearing on production restriction will be held at Austin September 16.

Outside of the Gulf Coast Texas, districts showed only a 1000-barrel increase in daily average production, a 5000-barrel rise in the East Texas field and a 2000-barrel jump in Southern Texas being cut down by a 3000 decline in East Texas and 1000-barrel decreases in the Panhandle and East Central Texas.

Although there were upward and downward fluctuations in output of different California fields for the week of September 10 as compared with the previous week, the net change for the state was a 1000-barrel decline. A 2500-barrel increase at Midway-Sunset was more than counteracted by a 3300-barrel decline at Kettleman Hills. Long Beach and Santa Fe Springs showed declines of somewhat less than 1000 barrels each.

THE OIL WEEKLY

Estimated Average Daily Production in Barrels

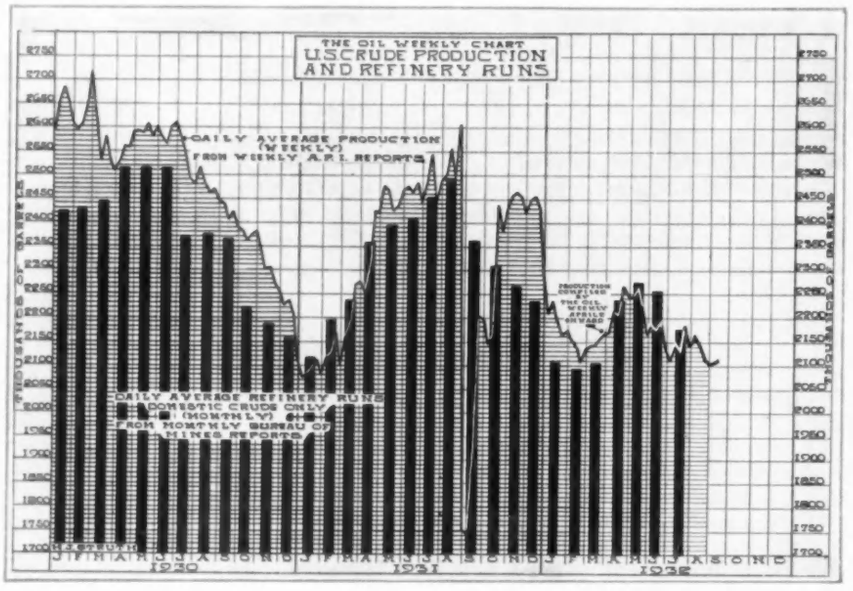
District	For Week Ending Sept. 10	Sept. 3
TEXAS—		
Texas Panhandle	54,100	54,950
North and West Central Texas	74,450	74,750
West Texas	171,625	174,375
East Central Texas	55,400	56,500
East Texas Field	330,850	326,000
South Texas	58,025	56,650
Total Texas outside of Gulf Coast	744,450	743,225
Texas Gulf Coast	130,950	123,650
Total Texas	875,400	866,875
OKLAHOMA—		
Oklahoma City	82,375	67,000
Seminole District	127,785	131,520
Other Oklahoma	183,950	183,830
Total Oklahoma	394,110	382,350
KANSAS—		
Ritz-Decker	14,605	14,650
Voshell	6,520	6,620
Other Kansas	75,120	74,790
Total Kansas	96,245	96,060
LOUISIANA—		
North Louisiana	28,785	28,090
Louisiana Gulf Coast	31,900	32,900
Total Louisiana	60,685	60,990
Arkansas	32,905	32,650
CALIFORNIA—		
Long Beach	69,300	70,000
Santa Fe Springs	59,400	60,000
Midway-Sunset	50,000	47,500
Kettleman Hills	59,200	62,500
Other California	239,100	238,000
Total California	477,000	478,000
MOUNTAIN STATES—		
Wyoming	34,400	33,350
Montana	7,400	7,450
Colorado	2,800	2,750
New Mexico	31,650	31,550
Total Rocky Mountain States	76,250	75,100
Eastern States*	127,850	123,650
Total United States	2,140,445	2,115,675

*Includes Michigan.

Mid-Continent Plants Continue Crude Withdrawal

DEMAND over the week-end which came to a close with Labor Day was reported slightly improved but the general situation had not changed materially and prices were rocking along. In the Oklahoma City district prices on low octane motor fuels appeared to range from 4⅛ to 4¾ cents with the bulk of material moving at about 4¼ cents. The expected effect of military shut down on smaller refiners in that district failed to materialize but may be felt to some extent within the next few weeks. Gulf States Refining Company is reported to have shut down its skimming plant which had been running from 2000 to 2500 barrels of crude daily. One other refinery, Capitol Producers & Refiners Company, is known to be reducing runs.

Although definite figures were not available it was known that Mid-Continent purchasers and producers continued to withdraw crude from storage at a rate closely approximating the rate of the last week in August when the estimated daily net withdrawal amounted to 36,000 barrels. Undoubtedly producers are now suffering from the amount of oil being withdrawn from storage but it also seems logi-



cal that they should profit eventually from the greater stabilization created thereby. Talk of possible price cuts during the coming fall and winter was being generally branded as loose, although there are some who believe that the present schedules cannot be maintained for many months without a decided change in demand. Apparently the whole situation revolves around the attitude which will be taken by refiners. Gasoline stocks remain too high for the season and can be reduced only by drastic reduction of runs to stills. Mid-Continent refiners feel that they have contributed their share, and more, of the needed reductions and will make further cuts only when it has been fully demonstrated that the proper co-operation will not be forthcoming from the refiners of other districts.

California Curtailment Has Not Reduced Stocks

COMING of the winter months has been accompanied by fear that California cannot absorb a daily production equal to the present output, and agitation for a lower allowable for the state continues. Various agencies have issued warnings that the situation is tense, and that something ought to be done about it. The total output has been running under the actual allowable, but current production is now slightly above the allowable.

Several producers claim that as long as the state total is correct, it should make no difference whether some fields are over and others under. The principal purchasers claim that this is obviously unfair to the operator who is hewing to the line, even though others are under enough to make up for the excesses. The operators who insist that the state total should be the determining factor, are those who have been easy-going in their methods.

The demand for California products is being studied by a special committee composed of R. E. Allen, William Geis and L. A. Cranston, and once more the wisdom of the present allowable probably will be questioned. The market demand has been such that with a production of 475,600 barrels daily, stocks have not been reduced. This has alarmed the companies holding the stocks, and they can not be blamed for wanting to get out from under a part of their load. The oil they are carrying was produced by the small operator who did not have tankage and sold at a figure higher than the present price.

Refineries are expected to lower runs while working with the curtailment committee. Running of too much crude oil when the market will not absorb the refined products simply results in a reduction in light oil stocks and an increase in gasoline and heavy oil stocks.

Possibility of increased field operations in the older fields is held, but conditions will have to improve considerably before extensive plugging back, deepening and working over operations should be expected.

Gasoline prices have been a shade weaker, but no reductions have been posted in retail quotations.

Los Angeles

EFFECTIVE October 1, allowable crude oil production in California will be reduced more than 27,000 barrels to a new quota of 448,200 barrels daily.

The new allotment is based on estimated demand for all products.

Drilling Activity in East Texas to Balance Wells

Tyler, Texas.—The threatened revival of drilling activity in the East Texas oil field by some of the leading companies is believed to be due to a desire to balance their density of wells to an average for the field rather than because of politics. The companies undertaking the large volume of new work have a well density ranging from 19 to 25 acres to the well while the field has been developed to an average density of one well to 14.75 acres. Royalty owners and holders of oil payments are continually threatening court action against companies that have lagged behind with drilling and matching offsets.

Order Cutting Yates-Van Allowable Not Signed

Austin, Texas.—Up to September 9, orders of the Texas Railroad Commission reducing the allowables in the Van and Yates pools, remain unsigned.

The orders were drawn and placed on the desk of the commission on Monday, but no action has been taken.

Attorneys for Mid-Kansas Oil & Gas Company have served notice on the commission that they will request an injunction against the operation of the order in the Yates pool, and it is understood that another group of attorneys representing royalty owners in the Van pool have signified their intention of taking the same action on the order there.

As the orders are drawn, they merely constitute amendments to the present orders. Should they be attacked in court, which appears certain if the members of the commission sign, the old order will automatically be reinstated and the status quo maintained.

Texas Panhandle Allowable Cut to 50,000 Barrels

Amarillo, Texas.—The proration allowance for the Texas Panahndle district was reduced from 53,000 to 50,000 barrels daily effective September 1 as result of the Phillips Petroleum Company having lowered its nominations by 3000 barrels. This company's con-

Crude Runs to Stills, Motor Fuel Stocks, Gas and Fuel Oil Stocks and Cracked Gasoline Production, as compiled by A. P. I. for Week Ended September 3, 1932

(Figures in barrels of 42 gallons)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		MOTOR FUEL STOCKS					Gas and Fuel Oil Stocks	Daily Charging Capacity of Cracking Units			Cracked Production Daily Average
	Potential Rate	Reporting		Daily Average	% Operated	(a) At Refineries	(b) Bulk Terminals	(b) In Transit	(c) Other M.F. Stocks	Total Motor Fuel		Potential Rate	Reporting		
		Total	%										Total	%	
East Coast	633,700	633,700	100.0	401,000	63.3	5,441,000	9,140,000	1,027,000	320,000	15,928,000	9,229,000	261,300	236,300	94.1	91,600
Appalachian	149,600	137,400	91.8	78,300	57.0	1,251,000	471,000	7,000	250,000	1,979,000	1,044,000	56,300	54,100	96.1	25,900
Ind., Ill., Ky	436,300	431,500	98.9	268,300	62.2	4,399,000	2,575,000	72,000	160,000	7,206,000	4,241,000	330,400	315,400	95.5	77,600
Okla., Kans., Mo	485,700	435,200	89.6	205,700	47.3	3,082,000	783,000	.....	880,000	4,745,000	3,422,000	237,800	219,500	92.3	44,400
Inland Texas	305,700	233,900	76.5	90,300	38.6	1,189,000	30,000	.....	300,000	1,519,000	2,192,000	98,400	88,800	90.2	19,700
Texas Gulf	532,500	531,500	99.8	350,400	65.9	4,518,000	193,000	.....	270,000	4,981,000	9,972,000	352,400	347,400	98.6	76,400
Louisiana Gulf	147,500	147,500	100.0	67,900	46.0	1,480,000	171,000	.....	40,000	1,691,000	4,305,000	77,000	77,000	100.0	21,400
North La.—Ark.	85,600	83,000	97.0	42,600	51.3	102,000	42,000	.....	60,000	204,000	624,000	35,400	35,400	100.0	9,200
Rocky Mountain	160,900	143,800	89.4	33,300	23.2	1,636,000	.....	.....	20,000	1,656,000	561,000	99,900	98,400	98.5	6,700
California	914,500	884,100	96.7	426,500	48.2	12,725,000	.....	.....	2,750,000	15,475,000	99,357,000	190,800	190,800	100.0	38,700
TOTALS WEEK: September 3, 1932	3,852,000	3,661,600	95.1	1,964,300	53.6	35,823,000	13,405,000	1,106,000	5,050,000	55,384,000	134,947,000	1,739,700	1,663,100	95.6	411,600
August 27, 1932	3,852,000	3,661,600	95.1	2,104,100	57.5	36,664,000	13,977,000	1,123,000	5,080,000	56,844,000	134,925,000	1,739,700	1,663,100	95.6	470,600
Below are set out estimates of Crude Runs to Stills and Motor Fuel Stocks on B. of M. basis for week September 3, 1932 compared with certain September 1931 Bureau figures.															
Estimate B. of M. basis Week September 3, 1932				2,040,000	(d)	36,400,000	15,100,000		5,050,000	56,550,000					435,000
U. S. B. of M. September 1931 Figures:—					9/1	33,928,000	12,757,000		4,125,000	50,810,000					
September 1931 Daily Average Crude Runs				2,503,000	9/30	32,294,000	13,831,000		3,997,000	50,122,000					

September, 1931 Daily Average Cracked Prod 505,000

(a) Stocks at refineries, except in California district, which includes stocks of finished gasoline and engine distillate at refineries, at water terminals and at sales distributing stations and any amounts in transit thereto.
(b) By districts, East of California only. In California, bulk terminal and in transit stocks are included under "At Refineries" heading. See note (a).
(c) Estimated. Includes motor fuel in pipe lines and unblended natural gasoline at refineries and plants, also blended M. F. at plants.
(d) Estimated to permit comparison with A. P. I. Economics Report which is on Bureau of Mines basis.

Comparison of Permits Granted For New Wells

State—	For week ending Sept. 10	Total this month	Total this year	Total this date last year	1931 year total
Arkansas	1	1	14	26	34
California	7	11	269	262	342
Louisiana	22	29	251	222	309
Kansas	12	23	243	326	475
Oklahoma	14	36	606	482	842
Texas	183	207	4305	4103	6961
Total	239	307	5688	5521	8963

Summary Review of Field Results

State—	Completions	Oil Wells	Gas Wells	Failures	Initial Prod.
California	7	6	1	..	18,950
Indiana	2	..	1	1	.....
Kansas	14	10	1	3	5,520
Kentucky	14	7	2	5	1,095
Louisiana	17	10	1	6	4,757
Michigan	4	3	..	1	3,070
New Mexico	4	4	..	..	11,535
Ohio	19	7	7	5	84
Oklahoma	26	15	2	9	15,372
Texas	169	140	..	29	1,010,961
W. Virginia	1	..	1	..	.....
Total	277	202	16	59	1,071,344

East Texas Proration Suit Postponement Probable

Houston. — Postponement of Constantin-Wrather et al's suit to strip the Texas Railroad Commission of its proration powers in East Texas, scheduled to be held here September 19 before a three-judge federal court is not a remote possibility. Influential independent producers on friendly terms with the leaders of the fight on the commission are endeavoring to persuade the plaintiffs to ask for a delay when the case is called the plaintiffs in this suit which is to determine the future of proration in the East Texas field have worked up a strong case to be presented to the trio of judges. They claim an assured victory since the commission has elected to hike the field's allowable 50,000 barrels daily without new evidence of waste when it was previously contended that the allowable had to be restricted to 325,000 barrels daily to prevent waste.

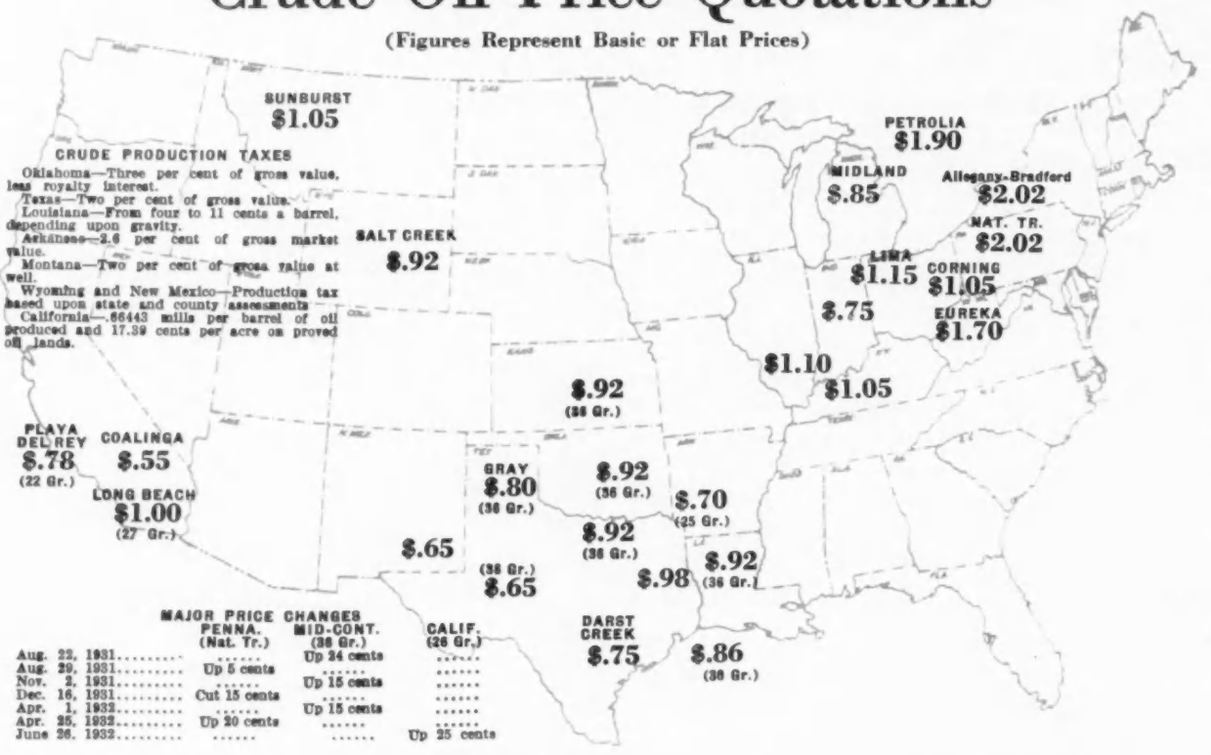
trolled oil amounts to about 6400 barrels daily, and it is buying about 7000 barrels daily from other producers in supplying its refinery at Borger. Major companies will lose 1800 barrels under the new schedule, and independents will be cut about 1200 barrels daily. There are 1820 oil wells in the Panhandle district, and 909 are classed as marginal producers, which are immune from proration. The daily potential for the district is estimated at 118,076 barrels daily by J. M. McDonald, deputy supervisor and umpire. The water production accompanying the oil is estimated at 35,173 barrels daily.

Pure's Michigan Line Makes Run Record During August

Mt. Pleasant, Mich.—Pure Oil Pipe Line Company, subsidiary of Pure Oil Company, established a new record during August for barrels of crude oil transported during a 24-hour period in its six-inch main from the Central Michigan oil field to Bay City, where the company has lake boat loading tanks. The record was 21,000 barrels of crude in a day.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



Official Postings and Differentials *(Revised to September 9, 1932)*

CALIFORNIA: (Effective June 26, 1932).

Signal Hill, Seal Beach, Alamitos Heights, Huntington Beach, Olinda-Brea Canon, Torrance, and Richfield: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 69 cents; 21 gravity 74 cents; 22 gravity 79 cents; 23 gravity 84 cents; 24 gravity 89 cents; 25-25.9 gravity 93 cents, top posting for Torrance and Richfield; 26-26.9 gravity 97 cents, top price for Seal Beach, Alamitos Heights and Huntington Beach; 27-27.9 gravity $1.00; 28-28.9 gravity $1.03, the top price for Olinda-Brea Canon; 29-29.9 gravity $1.06; and 30-30.9 gravity $1.09, the Signal Hill top posting.

Inglewood: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 71 cents; 21 gravity 77 cents; 22 gravity 82 cents; 23 gravity 87 cents; 24-24.9 gravity 92 cents, the top price.

Playa Del Rey: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 69 cents; 21 gravity 74 cents; 22 gravity 78 cents; 23 gravity 82 cents; 24 gravity 86 cents; 25 gravity 91 cents; 26-26.9 gravity 96 cents, the top price. Field gathering charges of 5 cents a barrel.

Athens, Rosecrans and Dominguez: 24-24.9 gravity 89 cents 25-25.9 gravity 93 cents; 26 gravity 97 cents; and 27-27.9 gravity $1.00 with three cents additional for each degree gravity upward, ending at 32-32.9 gravity $1.15.

Elwood Terrace: 33-33.9 gravity $1.04 and 6 cents more for each additional degree of gravity, ending with 37-37.9 gravity $1.28, all prices f.o.b. ship.

Whittier and LaHabra: 14 to 19.9 gravity 65 cents; 20-20.9 gravity 68 cents; 21 gravity 72 cents; 22 gravity 77 cents; 23 gravity 83 cents; and 24-24.9 gravity 89 cents, the top price.

Montebello: 14 to 20.9 gravity 65 cents; 21-21.9 gravity 67 cents; 22 gravity 70 cents; 23 gravity 73 cents; 24 gravity 76 cents; 25-25.9 gravity 80 cents, the top price.

Coyote Hills: 14 to 20.9 gravity 65 cents; 21-21.9 gravity 66 cents; 22 gravity 70 cents; 23 gravity 76 cents; 24 gravity 81 cents; 25 gravity 86 cents; 26 gravity 90 cents; 27 gravity 94 cents; 28 gravity 98 cents; 29 gravity $1.02; and 30-30.9 gravity, $1.05, the top price.

Santa Fe Springs: 24-24.9 gravity 73 cents; 25 gravity 79 cents; 26 gravity 84 cents; 27 gravity 89 cents; and 28-28.9 gravity 94 cents, with 4-cent differential for each degree of gravity upward to 35-35.9 gravity $1.22.

Newhall, McKittrick and Kern River: 14 to 19.9 gravity 55 cents.

Midway-Sunset, Elk Hills and Buena Vista: 14 to 19.9 gravity 55 cents; 20-20.9 gravity 59 cents; 21 gravity 63 cents; 22 gravity 69 cents; 23 gravity 75 cents; 24 gravity 81 cents; 25-25.9 gravity 87 cents and 5-cent differential for each additional degree gravity ending with 30-30.9 gravity $1.12.

Lost Hills: Same as Midway-Sunset up through 25-25.9 gravity 87 cents, then 26-26.9 gravity 91 cents; 27 gravity 94 cents; 28 gravity 99 cents; 29 gravity $1.02; and ending 30-30.9 gravity $1.05.

Coalinga: 14 to 19.9 gravity 55 cents; 20-20.9 gravity 59 cents; 21 gravity 62 cents; 22 gravity 65 cents; 23 gravity 68 cents; 24 gravity 72 cents; and ending 25-25.9 gravity 75 cents.

Wheeler Ridge: 14 to 19.9 gravity 55 cents; 20-20.9 gravity 57 cents; and 21-21.9 gravity 60 cents, with 3 cents more for each additional degree of gravity, ending 25-25.9 gravity 72 cents.

Oklahoma, Kansas, North Texas (Effective April 1, 1932).

Below 29 gravity: 76 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at $1.00.

North Texas: (Effective April 1, 1932).

Below 29 gravity, 76 cents, with two-cent differential upward, ending 40 gravity and above, $1.

Texas Panhandle: (Effective April 1, 1932)

Gray County: Below 35 gravity: 76 cents, with differential of 2 cents for each degree to 40 gravity and above, 88 cents.

Carson and Hutchinson Counties: Below 35 gravity: 66 cents with differential of 2 cents for each degree to 40 gravity and above which is posted at 78 cents.

West Texas: (Effective April 1, 1932).

Crane-Upton, Crockett, Ector, Howard-Glasscock, Pecos and Winkler Counties, Texas, and Lea County, New Mexico 65 cents.

Southwest Texas: (Effective April 11, 1932)

Refugio: Heavy 80 cents.

Refugio: Light: (Same as Gulf Coast—see below).

Gulf Coast: (Effective April 1, 1932).

Goose Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia, Humble and Refugio Light: Below 25 gravity: 80 cents, with differential of 1 cent for each degree to 40 and above which is posted at $1.00.

Mirando: 80 cents; **Salt Flat:** 75 cents; **Darst Creek:** 75 cents; **Pettus:** $1.00; **Markham:** Same as Gulf Coast.

Conroe, Texas: (Effective July 18, 1932).

Two-cent differential applies, beginning 35-35.9 gravity, 90 cents, ending 40 gravity and above, $1.

East Texas: (Effective April 1, 1932)

Flat Price: 98 cents.

North Louisiana and Arkansas: (Effective April 1, 1932).

Caddo, Homer, Haynesville, Bull Bayou, Sabine, Cricton, De-Soto, El Dorado, Cotton Valley, Sarepta, Cartersville: Below 25 gravity 68 cents with differential of 2 cents for each degree beginning with 25 gravity and ending with 40 and above. Top price $1.00 a barrel.

Smackover: 65 cents.

Rocky Mountain States: (Effective June 1, 1932).

Salt Creek: Below 29 gravity 76 cents; 29-29.9 gravity 78 cents with differential of 2 cents each degree to 40 and above. Top price $1.00.

Elk Basin and Grass Creek: $1.10; **Big Muddy:** 98 cents; **Lance Creek,** $1.15; **Rock Creek:** 90 cents; **Sunburst:** $1.05; **Osage:** 98 cents; **Cat Creek:** $1.20; **Pondera:** 90 cents; **Hogback, New Mexico:** 80 cents.

Mid-Western States: (Effective April 11, 1932).

Lima: $1.15; **Indiana:** 75 cents; **Illinois:** $1.10; **Princeton:** $1.10; **Wooster:** $1.25; **Western Kentucky,** $1.05.

Pennsylvania: (Effective August 11, 1932).

Bradford District: $2.02; **National Transit Oil:** $2.02; **Southwest Pennsylvania Pipe Line Oil:** $1.72; **Eureka Pipe Line Oil:** $1.67; **Buckeye Pipe Line Oil:** $1.52; **Corning Crude:** $1.05.

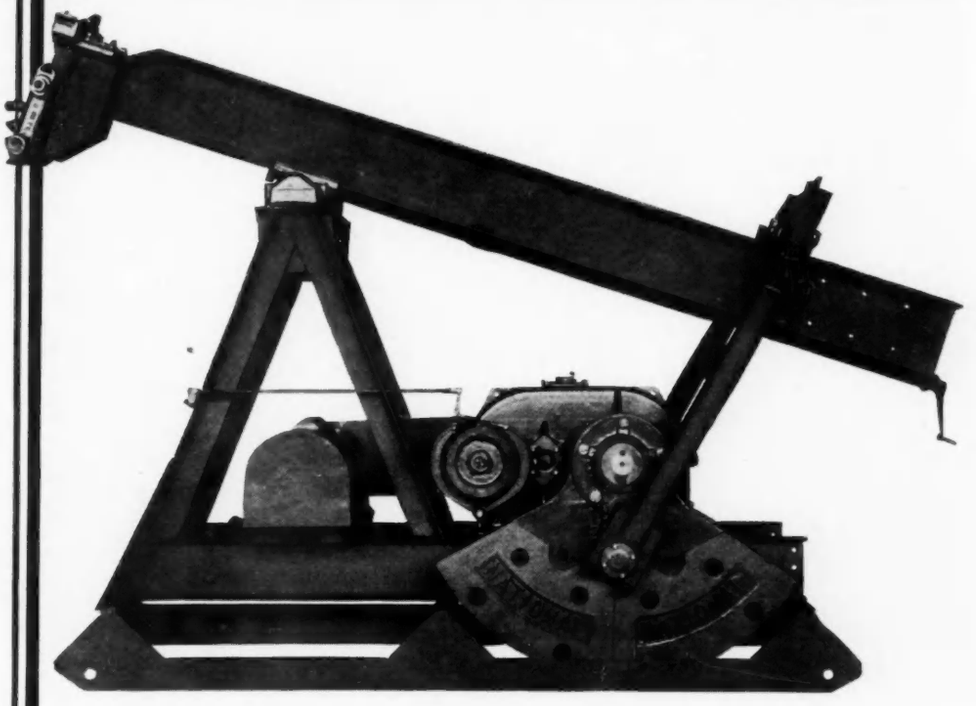
Michigan: (Effective July 13, 1932), **Midland:** 85 cents a barrel. **Muskegon:** 76 cents to $1.00 a barrel.

Canada: (Effective Nov. 3, 1931).

Petrolia: $1.90; **Oil Springs:** $1.97.

NATIONAL PUMPING UNIT

TYPE SW-130



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Again the American public owes a debt of gratitude to the petroleum industry for making possible this comfort and convenience . . . . and Halliburton is proud, through its oil well cementing developments, to contribute in a substantial way to the progress and productivity of the petroleum industry . . . . Halliburton Oil Well Cementing Co., Duncan, Oklahoma.

HALLIBURTON

Safeguards

» THE FLUID OF INDUSTRY «

Various Type Meters *Being Found Suitable for* Crude Oil Measuring

JACK LOGAN
Staff Representative

The accompanying article, the second in a series on the subject of metering crude oil, is in the nature of a pioneering effort, bringing together information from many sources to achieve a comprehensive, complete discussion of types of meters suitable for the complex operation of measuring crude oil, with more detailed information also given as to individual variations of the major classifications.

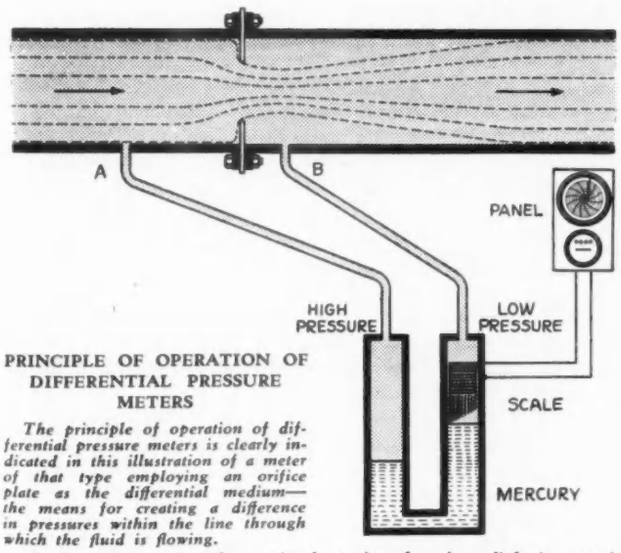
To make the article the more valuable, a considerable number of illustrations are presented, showing in picture form the principles on which the different types of meters operate.

WHAT are the different kinds of meters for measuring liquids? Upon what principles do they operate? And which of them will meet the special requirements of measuring crude oil or gasoline, fluids which are partly gaseous and consequently subject to effects of expansion and contraction, and which are of varying characteristics, quite unlike water?

These are some of the questions naturally presenting themselves in connection with the subject of metering crude oil, which is being dealt with at length in this series of articles in THE OIL WEEKLY.

An attempt is hereby made, therefore, in this second article of the series, to present a brief, general picture of the outstanding types of meters for measurement of liquids, including not only those types which have already gained practical application in production, pipe line, and refining operations, but also others which seem to offer possibilities. Explanations will be undertaken as to the principles upon which the various types of meters work, and their advantages and limitations will be touched upon.

THE OIL WEEKLY has communicated with meter manufacturers throughout the United States, asking them for information on meters which have proved their practicability for measuring crude oil or which are believed to offer important possibilities in that connection; and this article is consequently as complete as it could be made, every effort having been made to include all types of meters which are recommended by the manufacturers. It should be borne in mind, however, that the metering of crude oil is a subject on which very little has been written, particularly from the standpoint of considering at one time the various types of meters. This article is consequently in the nature of a pioneering effort, putting together information from many sources to make up a general, complete picture; and while great care was taken to achieve completeness, it must be recognized that the contacting of the numerous meter manufacturers and other sources of information on the subject was naturally a large and difficult undertaking, and that some meritorious type of meter may have been left out despite efforts and precautions to prevent such omission.



PRINCIPLE OF OPERATION OF DIFFERENTIAL PRESSURE METERS

The principle of operation of differential pressure meters is clearly indicated in this illustration of a meter of that type employing an orifice plate as the differential medium—the means for creating a difference in pressures within the line through which the fluid is flowing.

As the stream reaches the restricted opening there is a slight increase in pressure, but immediately beyond the aperture an abrupt drop in pressure occurs. The difference between pressures at those two points is proportional to the flow of fluid through the pipe. As the flow increases the difference in pressures increases, and as it decreases the differential decreases.

Measurement of those differing pressures is achieved by tapping one small tube into the pipe just ahead of the restricted opening and another just after the opening, the amount of the differential being converted at the other ends of those tubes either mechanically or electrically into a registration of the rate or quantity of flow by an appropriate mechanism and register.

Various types of meters which are used for measuring liquids may be classified for the most part under the following general divisions:

(1) Differential Pressure Meters.
(2) Volume-Displacement (or Volumetric) Meters.
(3) Weight-Displacement (or Gravimetric) Meters.
(4) Velocity (or Current) Meters.

Those are, as stated, rather general classifications, and each classification actually comprises a variety of meters, built different, but operating on a common scientific principle.

Differential Pressure Meters

The differential pressure meter determines *rate of flow* of a fluid (or gas or vapor) by embodying a means for causing different pressures within the stream, and by then measuring the two pressures, their difference being definitely related to the velocity of flow. Thus the meters measure directly the rate of flow.

Creation of such differences in pressure is accomplished by placing a constriction such as an orifice plate or a Venturi tube in the pipe through which the liquid is flowing, causing a momentary increase in the average velocity of flow, together with a decrease in static pressure, the pres-

sure dropping from a high value just ahead of the restricted opening to a low value just after it. The differential in pressure which is thus set up—that is, the difference between the high static pressure just ahead of the opening and the low pressure just after it—is definitely related, furthermore, to the rate of flow. Thus there is an increase in the differential with increased flow through the line.

Measurement of those differing pressures is achieved by tapping one small tube into the pipe just ahead of the place where the flow is restricted and another just after the restricted opening, the amount of the differential being converted at the other ends of those tubes either electrically or mechanically into a registration of the rate of flow by an appropriate mechanism and register. The meter may be more elaborately constructed, furthermore, so as to translate rate of flow through the line directly into total quantity of flow, giving direct readings of volume handled in terms of barrels per minute, per hour, or per day, those recordings being made by suitable indicators or clock-like hands.

Thus there are two fundamental elements involved in a differential pressure meter. In the first place there is the primary device or differential medium for creating the pressure difference. The thin plate orifice, the nozzle type orifice commonly called a flow nozzle, the Venturi tube, and the Pitot tube are among the differential mediums most commonly used with the various flow meters now on the market. All produce a pressure difference which is proportional to the flow. The thin-plate or sharp-edged orifice is a thin flat disc with a round concentric hole, designed for insertion between flanges in the pipe. The flow nozzle as its name indicates is roughly in the form of a nozzle used on a water hose. The Venturi tube at its up-stream end consists of a short cylindrical section containing holes for measuring the up-stream pressure. That section leads into a cone which reduces the diameter of the pipe line to that of the throat. The throat has side holes for taking off the throat pressure. The end of the throat leads into the exit cone or diffuser, which increases the diameter to that of the pipe line, resulting in only a small net loss in pressure. The Pitot tube differs from the above in that instead of placing a constriction in the line to produce a differential static pressure it consists of two pressure-measuring tubes, an impact tube for measuring the kinetic head of the fluid and a static tube for measuring the static pressure. Additional details on these various differential mediums will be given presently in discussing meters employing them.

The other fundamental element of the differential pressure meter is the secondary assembly in which the differential pressure set up by the differential medium is made to act upon an electrically-driven or clock-driven chart to furnish a record of the rate of flow. This secondary assembly consists, in fact, of two distinct units: (a) a meter body in which the differential pressure is gaged, and (b) the mechanism which the differential acts upon to furnish the record of the rate of flow or quantity of flow.

In a simple form the meter body may embody a suitable mechanism by which the differential pressure can be made to move a pen over a chart driven by clock-work. In a more elaborate form the instrument may integrate continuously the instantaneous rates to obtain total quantity of flow. In all these devices, however, whether simple or elaborate, the differential pressure is measured in terms of a fluid head by a differential gage, which is essentially a "U" tube filled with a fluid, usually mercury or mineral oil.

The mechanism which the differential pressure is made to act upon may be strictly mechanical or it may involve electrical circuits. In a typical form of the mechanical type of differential gage the motion of the mercury in the "U" tube is transmitted to a pen arm by a float and segment lever mechanism, and the pen traces a differential pressure line on the circular chart.

In a meter representative of the class in which the differential pressure acts upon an electrical mechanism, the differential pressure causes a rise of mercury in a contact chamber in the upper portion of one side of the "U" tube. The contact chamber embodies a large number of steel rods connected to a series resistance at various points. As the mercury rises and makes contact with the rods, resistances are cut out of the circuit, those resistances being so arranged that total resistance in the circuit is proportional to the square root of mercury rise and consequently in direct proportion to rate of flow.

Advantages and Limitations of Differential Pressure Meters

Since they operate purely by differential pressures and since the greater part of the mechanism is not under pressure, meters of the differential pressure type can be easily adapted for use on large oil lines of high pressure. They are generally used where the flow is relatively constant and steady. They are also well suited for measuring liquids which contain much grit or foreign matter, since there are no moving parts in the stream of liquid to become scored or worn by the impurities. The latter consideration is obviously an important advantage of meters of this type for handling crude oil, which frequently has in association with it sand or sediment.

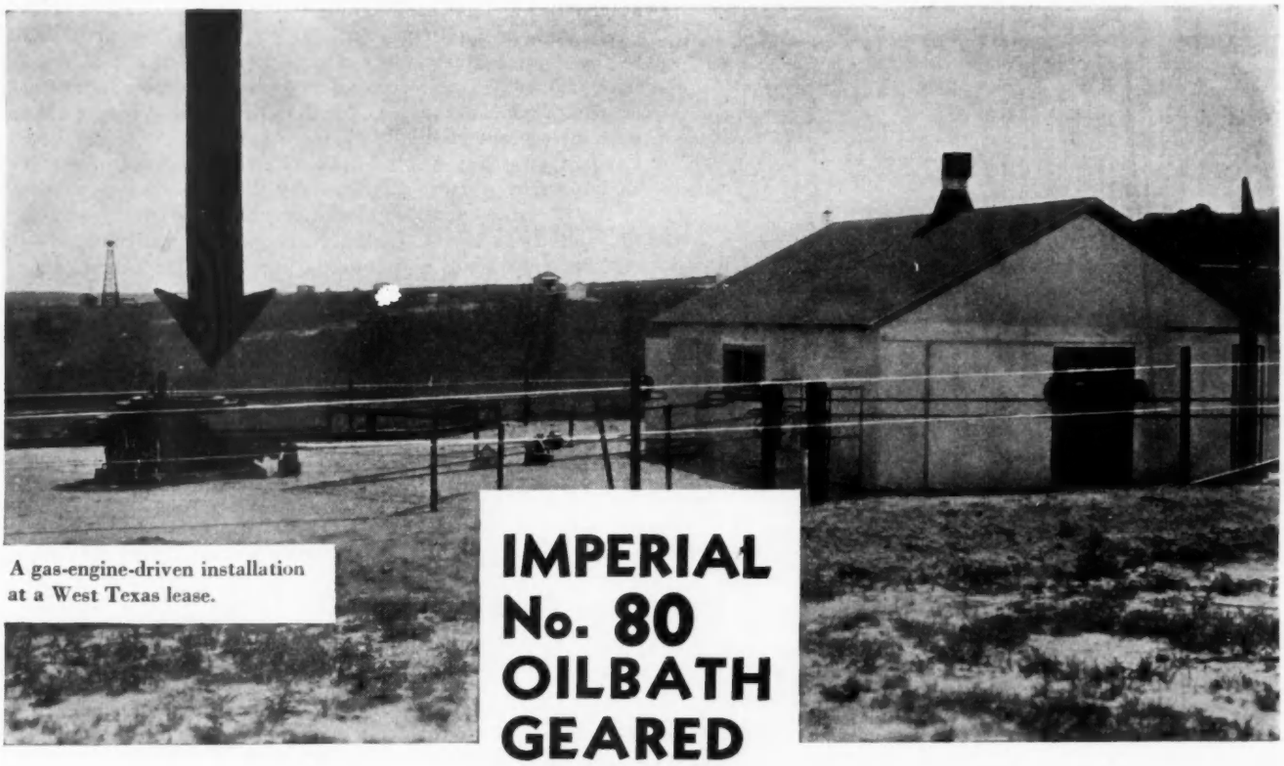
The above comment on suitability of differential pressure meters for use on oil pipe lines applies particularly to meters of this class employing the orifice plate or flow nozzle or the Venturi tube as the means for creating the pressure differential.

Aside from the advantages and disadvantages of differential pressure meters as a class there are also special advantages and limitations of the various types of meters of that classification, such as the orifice, Venturi, and Pitot tube types, since each employs the common operating principle in a somewhat different way.

Orifice Type

In the orifice type meter a plate with a hole in it or a nozzle-like constriction is inserted in the flow line for suddenly restricting the flow, the design of the plate or nozzle varying with different meters. The fact that the restriction of the flow is sudden is a feature of the orifice type meter sometimes pointed out as being a disadvantage. For it is claimed that because of the sudden change in velocity there may be a permanent loss of a considerable part of the observed drop in static pressure. Minimizing the importance of this limitation of the orifice type meter, however, one company which manufactures not only orifice meters but the various other types of differential pressure meters as well, points out that along with development of the orifice type meter there have been designed recorders, particularly electric recorders, which will operate on very small differentials, with the result that only very small net losses in pressure need be involved in using the orifice meters.

Offsetting whatever disadvantages it may have, the orifice type meter has an impressive number of advantages, including the following: relatively low initial cost; ease and economy of installation, as it can be placed in existing flanges in the pipe; sustained accuracy, as the thin edge of the orifice (where thin plate orifice is used) cannot clog or scale; adaptability to large capacities; and ease in changing the capacity. The orifice can be designed to give a definite pressure difference for a very wide range of flow under any conditions of pressure or temperature, and the meter will give results accurate a fraction of one per cent under certain conditions, including proper design and proper installation of the orifice. Orifice type meters are widely used for



A gas-engine-driven installation at a West Texas lease.

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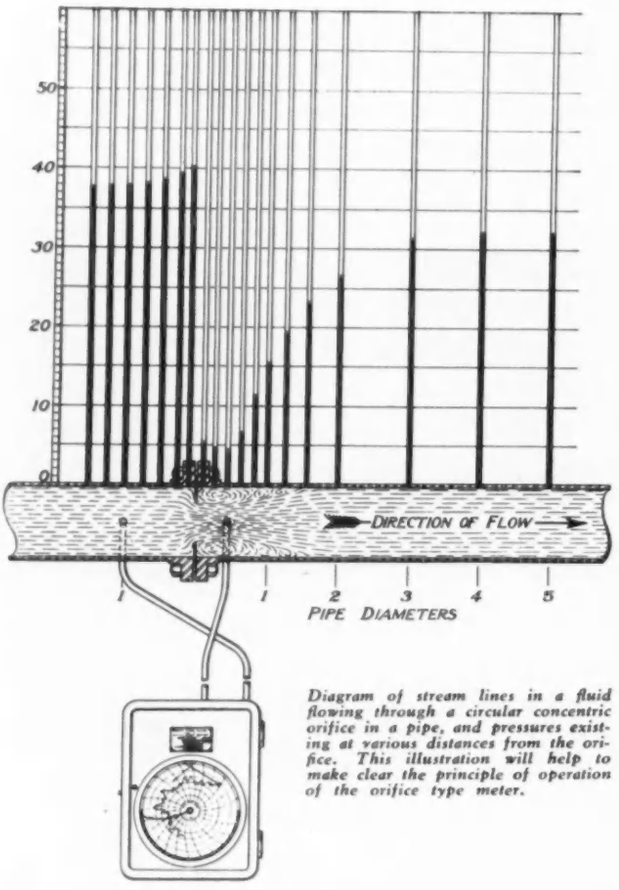


Diagram of stream lines in a fluid flowing through a circular concentric orifice in a pipe, and pressures existing at various distances from the orifice. This illustration will help to make clear the principle of operation of the orifice type meter.

measuring gases, and refinements have made them practicable for measuring crude and refined oils.

Venturi Type

The Venturi type meter differs from the orifice meter in that it restricts the flow of the fluid gradually rather than suddenly, embodying a tube which tapers gradually to a small opening or throat, and which beyond that aperture again flares out to regular diameter. Operation of the Venturi type meter is much the same as that of the orifice meter. As in the orifice meter, there is a difference of pressures ahead of and after the restricted opening, and that difference furnishes an operating head, which motivates the meter. A float which is embodied in the metering apparatus responds to changes of the operating head, thus recording differences in rate of flow; and the meter is so constructed as to translate the rate of flow through the line directly into terms of barrels per minute, per hour, or per day, as desired.

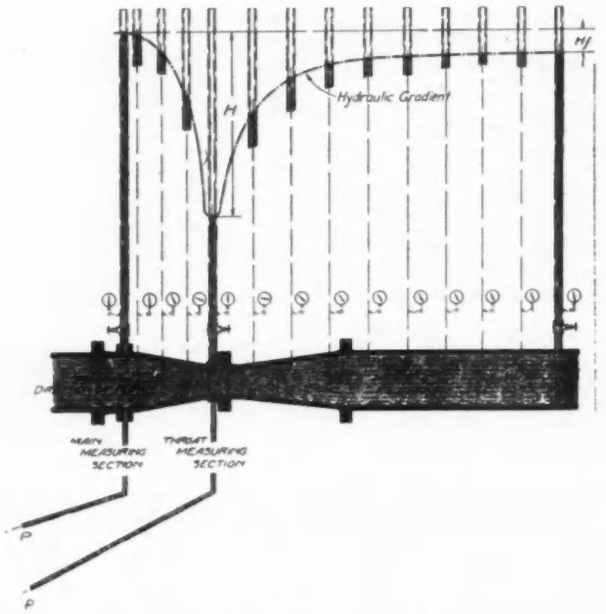
While it is like the orifice meter in principle of operation, the Venturi type meter is different in that it does not give rise to as great a loss in pressure in the flow line. The Venturi type meter is in fact nearly frictionless. Static pressure lost in it at the throat section of the Venturi tube, due to the increase in velocity at that point, is nearly all regained by virtue of the shape of the tube past the throat; and thus the net drop in pressure is very small. One manufacturer in commenting on meters of this type states that there is a restoration of about 85 per cent of the differential.

The Venturi type meter can be used for measuring reasonably steady fluid flows at practically any ordinary pressure and temperature and at any capacity within the limits of the pipe line.

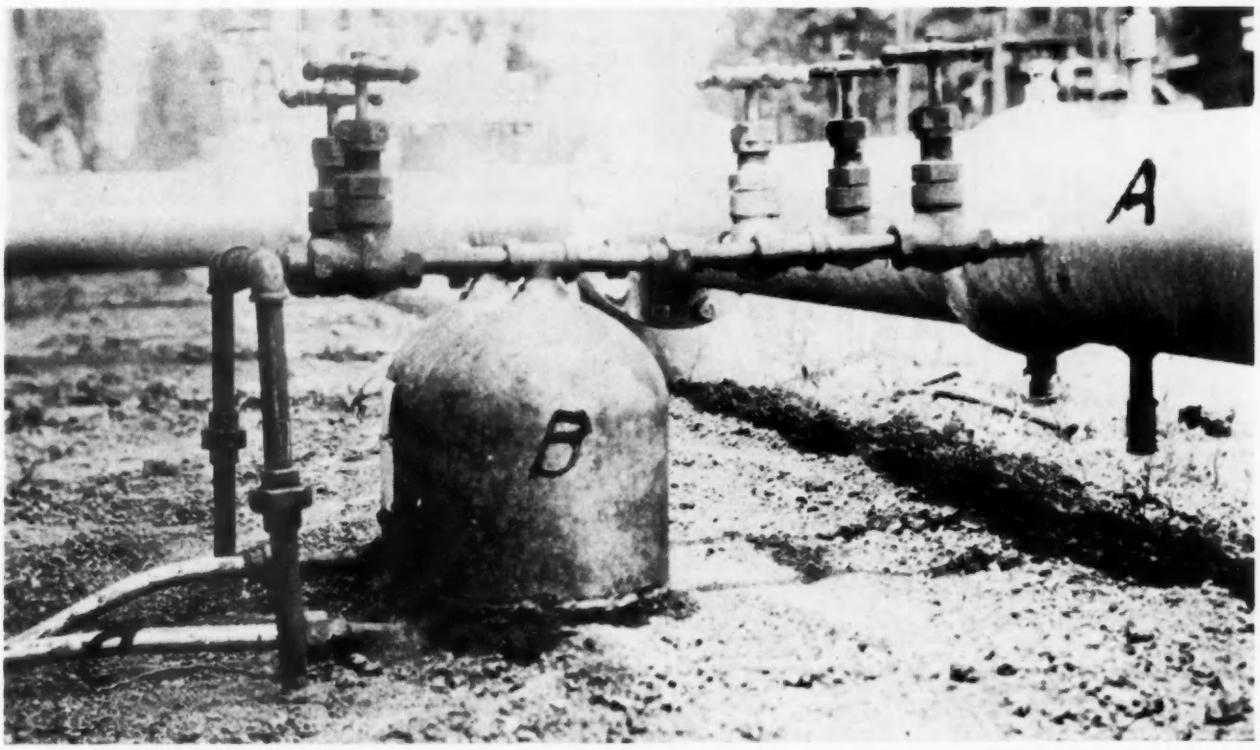
Probably the most important disadvantages which can be charged against the Venturi type meter are (a) its relatively high original cost, especially in the larger sizes, due to the comparatively large size and weight of the Venturi tube, and (b) the inconvenience of installation, since a length of piping equal to the length of the Venturi tube must be cut out of the line before the tube can be installed. Largely offsetting those disadvantages, however, there is an important advantage offered by the Venturi type meter in that it makes possible a relatively small loss in pressure, as pointed out above. This advantage is a particularly important consideration in measuring crude or refined oils passing through pipe lines, since it is usually imperative in such operations to keep pressure loss at a minimum.

In actual experience, involving of course up to now only limited and pioneering work, Venturi meters have proved remarkably successful in measuring crude oil in pipe lines. That statement is particularly true as regards the East Texas field, where various pipe line companies have each installed one or more of the Venturi meters. One company reports that the two meters of that type which it is operating there have checked over considerable periods within one per cent of the measurements wade by tank gauging, the meters operating at about 700 pounds pressure on the discharge sides of pump stations, about 300 feet from the pumps—as far away from the pumps as possible to minimize surging within the line. The company under discussion had been using the two Venturi meters in the East Texas area even before issuance of the recent order by the Texas Railroad Commission requiring meters on lines moving crude oil out of that district, employing them however at other points.

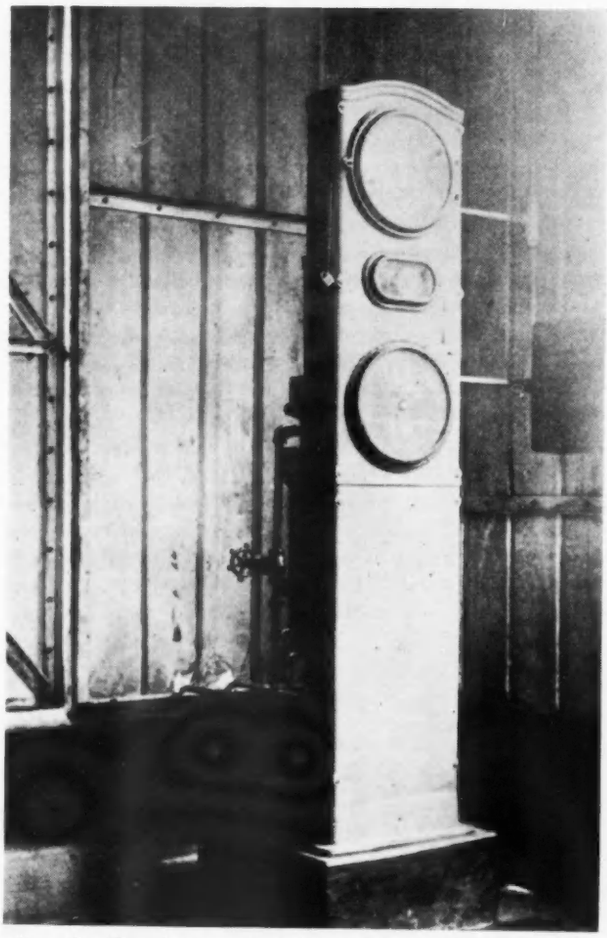
The company has a trunk line system not far from the field, and in that system dispatches oil movements both north and south. Using the meters at the point where a line out of the East Texas field joined with the trunk line, the company was able to divide the stream at that point about equally, sending one-half of the East Texas crude north and half south. The company's experience with Venturi meters has been that they work much more accurately on the discharge side of the pump station—the high pressure end of the line—than on the low pressure end. The meter is installed in the pump station, usually as far away



This illustration shows variation of pressure in a Venturi tube, and helps to make clear the principle of operation of the Venturi type meter, which is discussed in the accompanying text.



Part of the Venturi meter installation on a crude oil line in East Texas, showing the connections out of the Venturi throat in the main line. "A" is the Venturi throat itself, through which passes the full main line stream. "B" shows the liquid seals placed in the line, which are kept completely full of a freezone solution so that only the solution is in contact with the mercury float in the meter. This will prevent paraffining up of the float chamber. "C" indicates the tubes leading into the meter itself. The tubes downward into the ground are for drawing off gases which might accumulate in the tubes or the seals.



Register of a Venturi type meter installation on a crude oil pipe line in East Texas. Pipes from the Venturi tube are seen back of the stand. The upper of the three dials is a 24-hour recording chart showing barrels per hour. In the middle is the integrating or totalizing device registering total barrels passed through the line. The bottom dial is the instantaneous flow indicator, which shows by a pointer the barrels per hour pumping through the line at any particular moment.

from the pumps as possible to minimize the effect on the meter of the surging within the line.

Pitot Tube

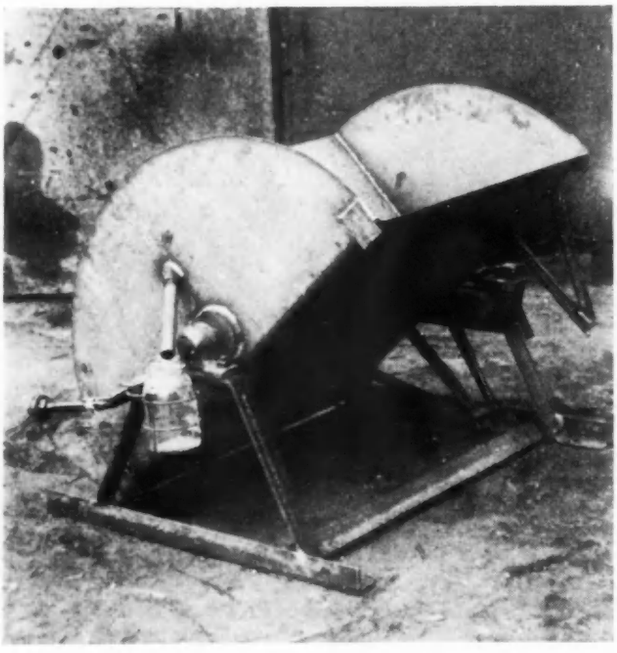
Of lesser importance than the orifice and Venturi type meters as applied to measurement of crude oil, the third mentioned variety of differential pressure meter is the Pitot tube. Whereas the orific and Venturi meters involve placing a constriction in the line to produce a differential static pressure, the Pitot tube merely employs two pressure-measuring tubes, the differential pressure being the difference between the impact or kinetic pressure exerted on an opening whose plane is perpendicular to the direction of flow and the ordinary static pressure. In this meter the differential is related not to the average flow in the pipe but to the velocity at a particular point. While the Pitot tube in refined form is suitable for test purposes where high accuracy is not required, it has the disadvantage insofar as commercial application is concerned, of not being able to measure any except high velocities of flow with satisfactory accuracy. For the Pitot tube does not create any acceleration of the flow, and it consequently produces only a small differential pressure except at high velocities of flow. Concerning the Pitot Tube one prominent manufacturer making that type of meter advised as follows:

"We would not recommend the use of a Pitot Tube for the measurement of crude oil.

"The impact and reference orifices are entirely too small, and we feel sure, therefore, that the characteristics of the Pitot Tube as a primary device could not be maintained."

Volume-Displacement Meters

As contrasted with the differential pressure meters which have been discussed, and which primarily measure rate of



Early model of gravimetric type meter used by Shell Oil Company in Mt. Poso field, California.

flow, the meters of the second major classification, namely, volume displacement or volumetric meters, serve to measure directly the quantity of flow. They measure the liquid (or gas or vapor) by actually displacing all of it as it flows through the meter, compartments of definite volume in the meter being alternately filled with and emptied of batches or isolated volumes of the measured substance.

Advantages and Limitations of Volume Displacement Meters

All of the various meters of the volume displacement type are suitable for very accurate measurement of rates of flow up to 800 or 1000 gallons per minute. They also have the advantage of being accurate over wide ranges of flow. Disturbances in the flow due to fittings do not interfere with their operation, and the flow may be intermittent, fluctuating, or pulsating without materially affecting the metering accuracy.

Pressures on most meters of this type are limited to 200 or 300 pounds, although certain special models are built in small sizes for pressures up to 600 or 1200 pounds. On account of their extreme accuracy the meters are not affected by variations in pressure or rate of flow as long as the rate of flow is within the wide capacity range of the meter.

A limitation of the displacement type meters is that the liquids to be measured must be relatively clean. But where the liquid is clean enough to be measured, these meters are widely used.

Among the advantages of these meters as a class, one which is particularly outstanding is simplicity, there being no complicated mechanisms to get out of adjustment. At the same time the meters are relatively rugged, and they are positive in action. An additional advantage is that in small sizes they can be obtained at particularly attractive, low prices.

Volume-displacement meters have been given considerable practical application, their use extending to operations in all branches of the petroleum industry: production, pipe line, refining, and marketing. In production operations a noteworthy application of volume-displacement meters has been in California. Meters of this type have been employed by several companies in various fields of that state for obtaining production records of individual wells. They have proved satisfactory under a variety of conditions, even being practicable through use of auxiliary equipment in metering crude oil containing material quantities of gas, water, or sand, the presence of gas being offset, for instance, by use of suitable gas traps and gas eliminators. A more detailed discussion of the volume-displacement meters as employed in California for metering production from individual wells will be presented in a later article in this series.

Aside from their use in production operations, the volume-displacement meters have also been employed successfully for several years in California and elsewhere in pipe line and refinery activities, measuring refined oils to considerable extent and crude oils in some instances.

Types of Volume-Displacement Meters

As among the differential pressure meters, the meters operating on the volume displacement principle comprise several individual types, differing in certain details of construction. Important among these different types are the following:

(a) Nutating piston type.
(b) Oscillating piston type.
(c) Reciprocating piston type.

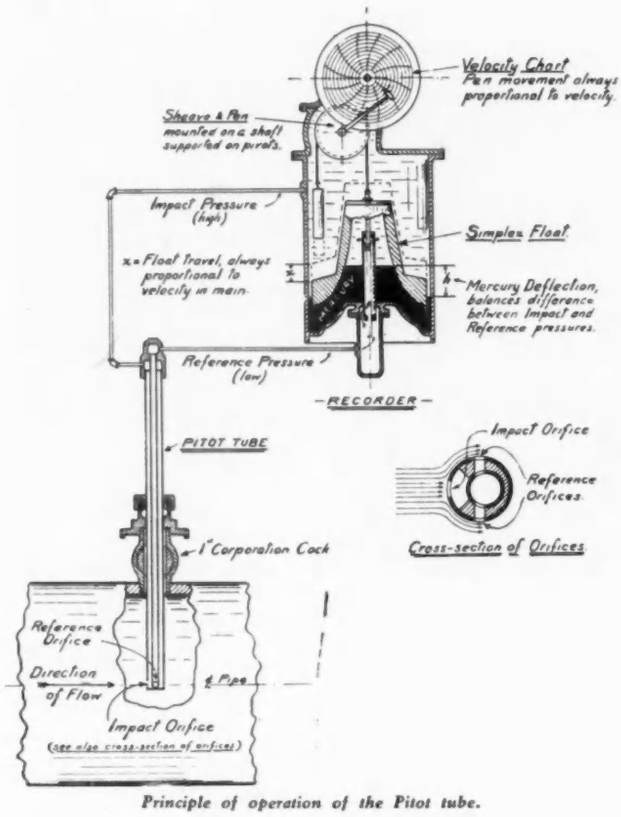
The nutating piston type of displacement meter has a single piston, round and flat, so that it is sometimes called a disc type meter. It nutates or rocks around on its central ball within the limits of a spherical chamber. A positive displacement cam compels the piston to make a complete movement sweeping into and out of every part of the chamber. The passage of a quantity of liquid sufficient to fill the chamber compels the piston to make a complete movement, displacing the entire quantity of liquid.

The oscillating piston type meter is theoretically a modification of the nutating piston type except that the cylindrical piston operates in a cylindrical chamber, oscillating transversely under the control of a positive displacement cam similar to that of the nutating piston meter. This and the nutating piston meter are practically equal in performance and operating qualities.

Reciprocating piston type meters are made in various models, utilizing from two to five pistons, each of which has a reciprocating motion within a cylindrical chamber. A fixed amount of liquid is displaced by each stroke of each piston. This type differs greatly from the nutating or oscillating piston meters in that valves are necessary to open and close the inlet and outlet ports of each fluid chamber, whereas the other two types of displacement meters require no valves.

Weight-Displacement Meters

Meters of the third major classification, the weight-displacement or gravimetric meters, are like the volume-displacement or volumetric meters in that they measure directly the quantity of fluid handled. The volumetric meters, however, achieve the desired end through alternate filling and emptying of compartments of definite volume with batches or isolated volumes of the measured fluid, as explained previously; whereas gravimetric meters show the quantity of fluid handled through alternate filling and emptying of compartments measuring definite weight-units of the fluid. In the volumetric meter the compartment is



Principle of operation of the Pitot tube.

filled and emptied and it is known that a definite volume of fluid has passed through the meter. In the gravimetric meter the compartment is filled and emptied and it is known that a definite number of pounds or ounces of the fluid has been handled. When crude or refined oil is measured by a meter of this type, therefore, it is simply weighed, and by means of a chart designed for use with the meter, the weight may be translated quickly into volume, the gravity of the oil being determined from actual samples available from the meter, and such gravity being taken into account in reading the chart.

The gravimetric meter is remarkably simple in construction as well as in principle of operation. It is usually in the form of a triangular, two-compartment bucket, which rocks back and forth on a shaft when in operation, with gravity as the motivating force. Oil discharges into the bucket from a pipe leading from a producing well or tank, and when a predetermined weight of liquid is in the bucket it swings about its axis, discharging the contents of the compartment on one side and bringing the other compartment into position for filling. The operation is then reversed when the second compartment is filled. The oscillations of the bucket are recorded on a register outside the meter. As indicated above, the device is also provided with means for taking samples of the fluid that is being measured. The meter of this type is made in both open and closed models, the latter being more desirable when oil containing material quantities of gas is metered, but the former proving entirely satisfactory in handling oil that is relatively free of gas.

The gravimetric meter represents a relatively new type of instrument for measuring oil, and its development has been brought about largely in California, where more than 200 of the meters are in use.

Advantages and Limitations of Gravimetric Type Meters

The gravimetric type meter registers with a high degree of accuracy, for the bucket must always be filled with a definite number of pounds of the measured liquid before it will dump the contents and record an oscillation. Thus each oscillation signifies clearly the handling of a definite number of pounds of liquid, regardless of the density or temperature of the liquid, a pound of either cold or warm 40 gravity oil weighing no more nor less than a pound of cold or warm 20 gravity oil. Only in translating pounds of different grades and kinds of oil into barrels is there need for care, but accuracy is obtained by taking samples of the measured fluid and making the proper allowances for the mentioned factors in using the charts designed for making the translations from weights to volumes.

Gas, foam, water, sand, or other foreign matter in association with the oil fail similarly to affect the accuracy of the gravimetric meter when proper refinements, adjustments, and corrections are made.

The presence of impurities fails, furthermore, to offer any serious difficulties from the standpoint of mechanical opera-

VOLUME DISPLACEMENT METER USED IN MEASURING OUTPUT OF A PRODUCING WELL

This is a volume displacement meter used in measuring output of a producing well in a California field. The picture shows the gas eliminator, safety valve, and by-pass employed in the metering process. The gas eliminator is a miniature gas trap set ahead of the meter to remove gas which may have passed the gas trap or come out of solution between the trap and the meter. The by-pass is installed to aid in replacing or repairing the meter without shutting in the well. When sand content is excessive inlet to meter is at top and outlet on bottom, insuring uninterrupted service.

tion of the meter, none of the working parts of the device being in contact with the sand and fluid.

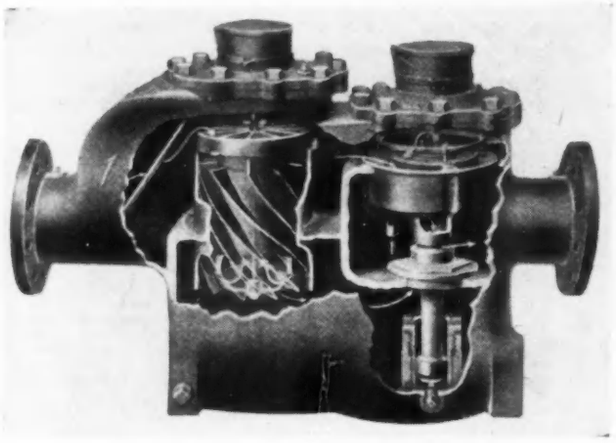
Another advantage of the gravimetric meter is its suitability for immediate metering of production of a producing well. Some types of meters function only with considerable inaccuracy when measuring crude oil that has appreciable quantities of gas in association with it, and they must consequently not be used in measuring oil except after the oil has had time to become stable. With the gravimetric meter, however, an immediate, accurate gauge is possible.

The principal limitation of the gravimetric meter is one which deals with exceptional rather than ordinary conditions. That limitation is that it is hardly suitable for metering the output of wells with extremely high oil production to excessive gas flow. The meter seems adapted, nevertheless to wells producing as much as 4000 barrels daily. In the pioneering work which has been done in California, however, the installations of these meters have been made for the most part on wells with small production and in fields where gauging is difficult. More detailed information on operation and application of the gravimetric meters will be given in a subsequent article.

Velocity Type Meters

Meters of the fourth major classification, the velocity type, are also sometimes referred to as being of the current, turbine, or torrent type. A meter of this type consists of a turbine wheel or rotor having blades set at an angle so that the liquid in flowing through the meter strikes those blades, causing the turbine wheel to revolve. A matching set of fixed blades located around the turbine wheel keeps the liquid from whirling with the rotation of the turbine wheel. The movement of the wheel is transmitted to the register by a train of gears so calibrated that the velocity of the wheel is correctly converted into the desired unit of registration.

The advantage of this type of meter is that it allows registration of large flows of liquid with relatively low loss of pressure head and without being appreciably affected by dirt or impurities in the liquid. It is a self-contained unit and



VELOCITY OR CURRENT TYPE METER

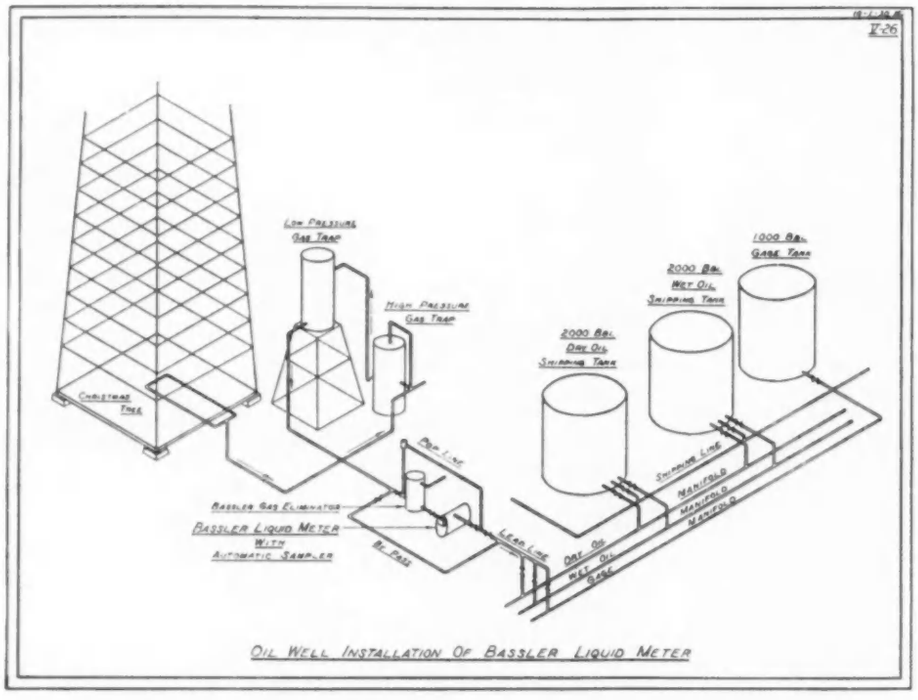
Arrows indicate course which oil follows in passing through this meter, the stream coming in from the left, passing up to the top of the measuring chamber and thence down through it and on out to the right.

records directly the total amount which has passed through the meter. It does not require regular replacement of charts.

This type of meter is made in sizes ranging from three inches in diameter to 12 inches, and is in general suitable for working pressures up to 150 pounds, although some manufacturers make special models for higher pressures.

A meter of the velocity or current type has been tried out with noteworthy success in handling crude oil, in Oklahoma, and its performance will serve appropriately to illustrate adaptability of the velocity type meters to oil pipe line operations. (Incidentally, five meters of the same type are also being used in Oklahoma for metering gasoline in movement from storage to tank trucks, the meter being made in two types, one to operate with maximum of 125 pounds pressure, and the other up to 1000 pounds.)

The meter which was mentioned as having been employed for measuring crude oil was a six-inch model installed on a main line, the metering point being about 30 miles "downstream" from the pumping station whose reciprocating-type pumps kept pressure between 50 and 100 pounds at the location of the velocity meter. The oil handled in the line was 39 gravity crude. Readings of the meter were checked against pumpings by tank gages in one instance for a period of 24 days, an average of from 23,000 to 24,000 barrels of oil being pumped daily during that time. As compared with daily tank gages, the meter registered slightly fast on some days and slow on others, the average percentage slow for the 24-day period being, however, only 0.898, and average per cent fast 0.646. The meter embodies a screen for straining out foreign particles in the oil, and the screen can be readily lifted out for cleaning. The readings are indicated in terms of barrels.



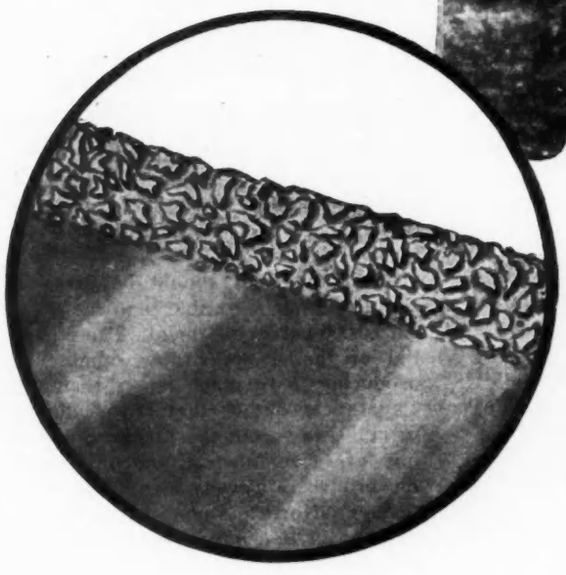
HOOK-UP FOR VOLUME DISPLACEMENT METER UNIT ON PRODUCING WELL

This illustration shows the method employed by one company operating in California in metering production of individual wells with volume displacement meters. The oil is measured at the well immediately after leaving the gas trap.

Haystellite-Composite Rod

puts *teeth*

on your Bits



DIAGRAMMATIC enlargement of a deposit of Haystellite-Composite Rod, showing the hard, tough particles of Haystellite ready to form numerous small sharp teeth. (Left)

HAYSTELLITE-COMPOSITE ROD puts teeth on your bits—*small sharp teeth* that break up the cut and penetrate quickly and easily. *Hard, tough teeth* that fight off abrasion and counter shock without crumbling. *Money-saving teeth* that mean fewer round trips and more out-to-gage hole in less time.

Haystellite-Composite Rod* consists of sharp irregular particles of crushed Haystellite—a high-grade tungsten carbide—uniformly mixed with a suitable binding material. When the rod is melted, the Haystellite particles are deposited evenly over the cutting surface. The binder seals them in and protects them for long cutting life.

There is a Haystellite-Composite Rod for every type of tool and formation. Used as a facing on bits hard-set with Haystellite inserts, it increases drilling life many times. Our engineers will be glad to demonstrate it on your tools. Get in touch with them today.

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CALIFORNIA FIELDS

Kettleman Hills Has Enough Wells to Produce More Than Will Be Allowed for Some Time. Deep Wildcat Quits.

BRAD MILLS, *Staff Representative, Los Angeles, California*

Inglewood Deep Drilling Has Important Possibilities

Los Angeles.—Deep tests on the extreme edge of the Inglewood field offer best evidence that the lower zones on top of the structure will be especially productive. E. K. Allison Syndicate will clean out to bottom in Moynier 1, an edge well which has been producing about 35 barrels daily from 6110 feet, and may deepen the producer before placing it on the pump again. While a very small well, this test indicated a very favorable sand condition inside the field, and was an important producer. Production on inside leases comes from a very shallow depth.

Baldwin Oil Company is coring below 5700 feet in Brownmoor 1, a deep test which has shown oil at various levels below 4000 feet.

It will be only a question of time until the deeper zones at Inglewood are developed. Presence of these producing formations has tempted several operators, but they have been induced to stop short of destination. Completion of a few good wells below the present producing zone would certainly lead to a long chain of offsets.

World's Deepest Wildcat Abandons Fishing Job

Santa Maria, Calif.—Interest in the Santa Maria district has increased following drilling of several very interesting wells which would have been more than ordinary tests in any area. In establishing a new American depth record, opening up a small field or two, and obtaining good showings in several other tests, developments of the past year have attracted the attention of both major and independent operators.

Western Gulf Oil Company has abandoned Bradley 1, deepest American test, at 10,294 feet after failure to remove drill pipe from the hole.

This Santa Maria wildcat was drilled with ordinary equipment to its record depth.

Superior Oil Company will drill a series of shallow core holes on Section 35-10-33 and other sections in the same township and range to determine the possibility of production on parcels of land totaling 1400 acres. These leases lie north of Gary and a deep test may be drilled after preliminary coring has been completed.

Barnsdall Oil Company will abandon Careaga 1, a wildcat test on Section 31-8-33, after drilling to 5330 feet and plugging back to 4300 feet for a test of the upper showings. Only water was swabbed.

O. C. Field Gasoline Corporation is rigging rotary to drill McLean 1, a wildcat test in the Lompoc district, Section 6-7-33. This company drilled one well in the Santa Maria district, but failed to develop commercial production.

No Immediate Incentive for Kettleman Hills Drilling

Coalinga, Calif.—Pinching back of all large wells at Kettleman Hills and shutting in of many others have virtually eliminated the necessity of extensive drilling on the North Dome, even if the field should be given a slightly larger allowable than the present 60,000-barrel allotment. The potential of the 40 wells now capable of producing is so much larger than the actual field output that any tendency to pull away from the present producing level could be accomplished with the producers already completed. Kettleman North Dome Association, Standard Oil Company and other operators will be content to drill only necessary wells and to feel around the edge of the structure while establishing boundary lines.

Associated Oil Company's Whepley 3, completed 10 days ago with an initial flow of 13,000 barrels from 8858 feet, emphasized the value of edge leases on the north flank and gave courage to a few operators who have remote chances of developing questionable acreage. The Whepley lease is by no means dangerously near the edge of the field, but such a large well on the flank of the structure gives the edge leases a much better appearance.

Middle Dome activity has been confined to a few wells, but nothing has happened during the past few weeks to give a clue as to the potential value of the structure.

Standard Oil Company is washing over the drill pipe at 6247 feet after recovering the fish to that depth in No. 6-29V, Middle Dome test which will help to determine the producing thickness of the Temblor in this part of the field. This well produced 1200 barrels of oil from above 8000 feet, but was deepened to 8406 feet before developing mechanical trouble. Some water has been entering the hole, but it has not been possible to tell whether its source is near the bottom or some intermediate formation.

Universal Consolidated Oil Company has shut down Bunting 1, Middle Dome test at 5900 feet to await developments in Standard Oil Company's No. 6-29V. If water has been entering the Standard well at or near bottom, Bunting 1 does not stand a good chance to produce. Intermediate water in No. 6-29V would indicate more promising finale in Bunting 1.

Small Operators Develop Shallow Devil's Den Area

Bakersfield, Calif.—Interest in the Devil's Den district has been confined chiefly to small operators who seek to develop production at shallow depths. Major operators have done no work in the area since Standard Oil Company drilled Alferitz 1, north of the shallow wells completed a generation ago. Leasing among small independent producers has been extensive at times, but an extension of the small producing strip along the hills to a distance far out into the valley appears out of the question. Several leases have been quitclaimed during the past two weeks. Cumberland Oil Company released a large portion of its holdings in the district, but retained a part of Section 17-26-18, the parcel on which a well is being drilled. The proximity of the area to Kettleman Hills has influenced several small operators to hold acreage which was regarded as very doubtful, but the fact that the Temblor is found at a very shallow depth points to production below the principal producing zone in California's premier field. The Kreyenhagen shale has possibilities in the Devil's Den district, but at the best it is not expected to produce a large amount of oil.

Building Rincon Ocean Pier Presents Some Difficulties

Ventura, Calif.—Indian Petroleum Company has completed false work for construction of an isolated pier in the Pacific ocean to drill on a state permit in the Rincon field. This is the first attempt made along the California coast to build this type of well foundation. The average depth of the water at the location is 37 feet, and construction of a great platform to support rig and all equipment will be a real achievement. All work is being done in the open ocean, and the swells at this point are

enough to discourage the average operator. No effort will be made to drive piles from a boat, since the bobbing makes the blows ineffective most of the time. A temporary frame will be used to insure driving the permanent piles to refusal. The rectangular platform will be 60 by 90 feet and will care for the rig, drilling engines, casing racks and other equipment. Gasoline engines will be used for drilling power. Braces will be cut from measurements after the main corner piles are driven, and divers will complete the assembly work. The rectangular mass of steel may be compared to a building 150 feet high to form an idea of its construction. Engineers do not believe it will be a difficult matter to get enough strength to withstand all shocks incidental to drilling of a well to 7000 feet. Production is expected around 2500 feet. Divers helped to do the geological work some time ago, and the structure apparently rises toward the location. Production on the mainland is found around 3000 feet.

Playa del Rey Well Will Not Require Offset

Los Angeles.—Union Oil Company will drill another well on its Del Rey Lease in the Playa del Rey field, but the new location should not cause a series of offsets, because of the size of the lease and the tendency of most operators to drill as few wells as possible in a field which has never been a sensation. Four wells were drilled on the Del Rey lease soon after the field was discovered, but it has never been necessary to develop the 40-acre tract on a large scale. This company owns the bulk of the acreage in the field, most of the other leases involving very small townlot tracts.

Most of the drilling in the future in this field will be on the large leases owned by Union Oil Company and Ohio Oil Company, unless some unexpected discovery should be made toward the southeast. The townlot tracts have been over-drilled and it seems foolish to seek another promotion streak in a field which has lost heavily for a large number of operators.

The shallow zone has been the favorite completing point in the townlot district, but a strong preference for the deeper zone is being shown around the edges and on the larger leases. A fair production has been obtained in the schist below the first deep production, but the uncertainty of this initial has discouraged extensive operations.

Leasing Near Santa Paula-Piru Has Been Brisk

Ventura, Calif.—Leasing in the Fillmore, Santa Paula and Piru districts has been more brisk during the past month than during any similar period since there was a genuine demand for the type of oil produced in the area. The major companies have been slow to re-enter the district, but they have not been adverse to propositions which might lead to drilling joint tests.

Reports that Consolidated Oil Corporation was leasing everything loose in some sections were exaggerated, but several companies are considering the leasing of large blocks in this district to insure a future supply of promising acreage. Some of the larger independents are considering deep tests along the edge of the valley, but only an improvement in the oil industry will insure actual drilling.

Sovereign Oil Company has acquired a part of the Harry Sankey acreage on the Buckhorn anticline and will drill a well on Section 23-4-19. First producti n is expected in the Modello formation, but both the Vaqueros and Sespe

California Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BUTTONWILLOW—		
Milham Exploration Co.'s Crites 1, 8-28-23	¶13	2465
ELWOOD—		
Caroline C. Spalding, No. 93-6	1300	3553
FRUITVALE—		
Western Gulf Oil Co., Bittle 1, 21-29-27	100	3835
Bittle 2, 21-29-27	800	3900
KETTLEMAN HILLS—		
Associated Oil Co., Whepley 3	13,000	8858
VENTURA AVENUE—		
Shell Oil Co., Taylor 73	3500	5890
Associated Oil Co., Lloyd 41	250	5297

New Operations

FRUITVALE—Mohawk Pet. Co., No. 12, 23-29-27.

KETTLEMAN HILLS—Standard Oil Co., No. 58, 29-21-17.

MESA—J. M. Owen, Owen 1, 28-4-27.

MT. POSO—Modoc Pet. Co., Vedder 2, 28-26-28.

SESPE—Merchants Pet. Co., No. 6, 1-4-20.

STANISLAUS COUNTY — Northern Pet. Corp., No. 1, 34-1-10.

VENTURA AVENUE—General Pet. Corp., Barnard 15-A, 28-3-23.

Wildcat Drilling Report

(Wells shut down not included)

NORTHERN CALIFORNIA

KERN COUNTY

BUTTONWILLOW—General Pet.'s Morris 1, 6-28-23, fsh for 8⅝ inch cas 3095 ft; Morris 2, 6-28-23, rig completed. Milham Exploration Co.'s Page 1, 8-28-23, trying to shut off water, td 3220 ft; No. 41-17, 17-28-23, rigging rotary. Wilshire Oil Co.'s Nordon 1, 7-29-24, sd 6990 ft.

DEVIL'S DEN—A. S. Hallaway's Lincoln 1, 11-25-18, dr shale 500 ft. Cumberland Oil Co.'s Cumberland 2, 17-26-18, dr shale 3265 ft. Tom Hannah's No. 1, 25-25-18, ur 3455 ft, will deepen.

McKITTRICK—Welport Oil Co.'s No. 2, 19-29-21, dr shale 635 ft.

WEED PATCH—Hay Pet. Corp.'s No. 1, 22-30-29, lcn.

SANTA BARBARA COUNTY

CARPENTERIA — Casitas Oil Co.'s No. 202-2, bldg pier for ocean test.

COAL OIL POINT—Bolsa Chica Oil Corp.'s No. 191-1, redrilling 3825 ft. Equity Oil and Royalty Co.'s No. 159-1, sd 3735 ft, will resume operations.

LOMPOC—O. C. Field Gasoline Corp.'s McLean 1, 6-7-33, rigging rotary.

LOS ALAMOS—Barnsdall's Careaga 1, 31-8-33, bailed water at 5331 ft after drilling out cmt, may abn.

NAPLES—Deuel et al's Cochran 1, 7-4-29, to deepen from 5135 ft.

ORELLA—Oakburn Oil Co.'s Sperry 1, trying to shut off water, td 2821 ft.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, fsh for drill pipe 10,294 ft, will deepen if hole is cleaned out to bottom.

SANTA ROSA ISLAND—Standard's No. 1, dr shale and hard gray sand 3115 ft.

VENTURA COUNTY

CONEJO—American Oil Co.'s Powell 1, 33-2-20, co 2030 ft.

FILLMORE—Sovereign Oil Co.'s Leavens 1, 23-4-19, lcn.

HOPPER CANYON — Bardeen Pet. Co.'s Lankershim 2B, 13-4-19, ur 1675 ft, td 2765 ft.

RINCON—Woodrow Pet. Corp.'s Woodrow 1, 4-3-24, dr shale 5415 ft.

SAN MIGUELITO—J. W. Miller's Valenzuela 1, 23-3-24, grading for rig.

SANTA PAULA—J. W. Mosher's No. 1, 22-4-21, dr shale 535 ft.

SESPE—Harmon and Deal's No. 1, 33-5-19, dr shale 760 ft. H. A. Iver's Star 7, 1-4-20, dr hard sand 635 ft. Merchant's Pet. Co.'s Cochran 6, 1-4-20, sp.

SIMI—Anderson Brothers' Marr 1, 36-3-18, swabbed at 1876 ft, showed some oil.

SULPHUR MOUNTAIN—Wilshire Annex Oil Co.'s Thompson 1, 20-4-21, dr shale 300 ft.

TIMBER CANYON—Petro Well Producnig Co.'s No. 4, 18-4-20, will deepen from 1100 ft. Superior's West 3, 13-4-21, dr shale and oil sand 3715 ft.

MISCELLANEOUS

KINGS COUNTY—Kettleman Reef Ridge Oil Co.'s Avenal 1, 10-23-16, showing some oil on pump, td 1150 ft; Seymour 2, 10-23-16, rig. Knudsen and Schmidt's Avenal 1, 36-23-17, fsh for tubing 5640 ft. Dudley Dome Oil Co.'s No. 1, 9-23-20, rigging rotary. Eagle Oil and Gas Co.'s No. 2, 15-23-20, sd 1330 ft. Triune Gas, Oil and Land Co.'s No. 1, 5-23-20, testing gas showings at 1100 ft.

MERCED COUNTY — Harry Bergman's Loma 1, 12-12-11, lcn. Los Banos Pet. Co.'s No. 1, rig completed.

MONTEREY COUNTY—Pacific Inland Oil Co.'s No. 1A, 19-23-15, co 2425 ft.

SAN LUIS OBISPO COUNTY—Emerich Oil Co.'s Holland 1, 22-32-22, sd after test which showed some oil, td 1840 ft. Kent and McDonald's No. 1, 3-32-22, dr shale 2765 ft. Panorama Oil Co.'s Panorama 1, 7-31-21, fsh for underreamer 4010 ft. Shell's Mahoney 1, 4-25-12, dr shale 978 ft.

TULARE COUNTY — Sheldon and Gholson's No. 1, 34-22-27, dr out cmt 915 ft.

SOUTHERN CALIFORNIA

FULLERTON—Orange Thorpe Corp.'s Skinner 1, 32-3-10, dr shale 4555 ft, may sd.

NEWHALL—W. T. Ball's Newhall 1, 23-3-16, coring gray sand 3400 ft. Naval Reserve Oil Co.'s Trumble 1, 6-3-15, sd 1250 ft. Spencer and Brubaker's No. 1A, 8-3-16, co 65 ft, will deepen. Superba Pet. Corp.'s No. 1, 11-3-16, dr shale 200 ft.

OCEAN PARK—Hines Pet. Corp.'s Happy Days 1, 8-2-15, sd at 7409 ft, after running string of 4¼-inch perforated for test.

PLAYA DEL REY—Cooperative Development Co.'s No. 1, 26-2-15, dr shale 4725 ft.

SAN FERNANDO — Willard Marble Oil Co.'s Lake 1, 6-2-16, dr shale 625 ft.

SAN JUAN CAPISTRANO—Mineral Exploration Co.'s Echnique 1, 8-8-7, dr hard shale and streaks sand 2365 ft.

SPADRA—Richfield Consolidated Oil Co.'s Stearns 1, 33-1-19, rig.

sands should be present at this location. A producer was completed on another small structure less than two miles away, the Modello formation having been productive at a depth considerably greater than the average of older producers in the district.

Long Beach Activity All Reconditioning of Wells

Long Beach, Calif.—Most of the wells now active in the Long Beach field are redrilling or plugging jobs, with only a few that have not been completed at some depth. An occasional location is being made, but drilling from the surface is much more expensive than working over of older producers. Since the casualty list of producers has been high, it has not been difficult to find enough wells to deepen, plug back or otherwise work over. Abandonment of any definite drilling program resulted from failure to obtain consistent initials from any of several levels.

The Los Cerritos, south and southeast extensions have shown nothing promising for a long time, and work has been confined to feeling around for satisfactory showings at any depth. The 5000-foot level has been a popular stopping place, but the average initial of completions at this point has not been impressive enough to cause a rush to plug back questionable producers.

The field is making much water along with the 70,000 barrels of oil. Estimates that more than 40 per cent of the total output is water are being made, but most of the inside wells are making a much better showing.

Work-Over Possibilities More Attractive in Basin

Los Angeles.—Working over of wells in several Los Angeles basin fields offers greater possibilities than outright wildcatting, and as the demand for light oil improves, plugging back, deepening and repairing of old producers will increase. Such fields as Athens-Rosecrans, Santa Fe Springs, Huntington Beach and Richfield should come in for considerable work along this line. It is known that operators in all of these fields have been considering changes in the status of producers, but because of the pinching back of producers already completed, it has not been necessary to obtain larger yields. A decided improvement in demand, or a higher allowable would result in more attention to these old wells. Hundreds of producers are near the border line, but continue to be produced at about the cost of operating.

OKLAHOMA FIELDS

Proration Officials Holding Four-Day Hearing With Prospect of Still More Next Week

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Order Will Require Plugs For Certain Water Wells

Oklahoma City.—Probably the high point in the Oklahoma Corporation Commission's hearing on water allowable and flat allowable to wells in the Oklahoma City pool came as an unexpected development when Phillips Petroleum Company presented testimony designed to show that at least seven wells and probably more should be reconditioned to prevent migration of oil, water and gas from the lower strata into the overlying Wilcox sand.

Aligned on one side of the flat allowable question are Phillips Petroleum Company, Wilcox Oil & Gas Company, Westgate Oil Company and Oils Incorporated, who are showing large amounts of oil lost to them through proration orders. Opposition to this stand is being supported by Indian Territory Illuminating Oil Company, Slick-Urschel, Incorporated, and Anderson Prichard Oil Corporation, who claim that in interest of conservation present orders of the commission should be extended. Each side is using expert testimony, necessitating submission of numerous charts, maps and tabulations which may require several days before they are completely read into the record.

Immediately following testimony regarding water wells which have penetrated the lower Simpson and are open to the Wilcox sand, Commissioner Hughes stated that the commission should issue an order closing in or plugging back all wells producing water under this condition. Chairman Paul Walker concurred in this opinion and citations were issued to interested parties who will be required to show why the order should not be issued.

Hearing has been set for September 15.

Two of the wells in question belong to Sinclair Prairie and Phillips, one to Sinclair Prairie, one to Dengail Oil Company, one to California Operating Company and one to Blackstock.

Other high points in the hearing today have been the introduction of testimony showing that the water level at the outer edge of the Wilcox sand to have raised an estimated 65 feet, a considerable encroachment considering relatively small amount of oil so far removed from that formation. Wells receiving special water allowable produce from 20 to 30 per cent water on potential gauging and probably produce as much as 12,000 barrels daily. Allowable for Arbuckle limestone wells, flat allowable and water exemption, totals 41 per cent of September demand from the pool.

The hearing has required two days and probably will not be finished in less than two additional days.

Oklahoma City Drill Work Concentrated in Southwest

Oklahoma City.—The Oklahoma City pool entered the last quarter of 1932 with three locations, 19 rigs and cellars, 27 tests rigging up or drilling, and five shut down, a total of 54 operations. The fact that proration regulation calls for a 65-day shut down some time between date of building rig and final completion, accounts for the relatively large number of rigs. Many operators elect to build the rig and take most of the shut down time before spudding. Phillips Petroleum Company continued to lead individual operators with 14 operations, Indian Territory Illuminating Oil Company was second with 10, and Slick-Urschel, Incorporated, has three. Miscellaneous operators had 27 operations at the first of the month. Activity in the older portions of the pool had ceased with the exception of a few wells which are being reconditioned. Practically all drilling is concentrated in the southwestern portion of the pool where locations, rigs and drilling wells make up 33 of the total of 54 operations for the pool.

Phillips Petroleum Company's Rock Island 1, SW NW SW Section 35-12n-3w, continued to prove itself a bad actor and one of the largest gas wells in the field when it make 49 barrels in 27 minutes through two two-inch chokes and was estimated to be making gas at the rate of 204,000,000 cubic feet. This well, completed several weeks ago, has been produced only for short periods due to its unruliness. The company's Ingle 1, SE SW NE Section 3-11n-3w, flowed 173 barrels in 14 minutes through two four-inch chokes, at the end of which time the hole

bridged and the gates were closed. Gas was estimated at 16,000,000 cubic feet.

Anderson-Kerr et al's Lippert 1, SW NW SE Section 22-11n-3w, flowed 1071 barrels the first hour through a 7½-inch choke. Nine-inch casing was set at 6442 feet with total depth at 6499 feet still in Wilcox sand. Slick-Urschel, Incorporated's, Classen-Edwards 14, NW NE SW Section 3-11n-3w, made 3837 barrels in three hours flowing through nine-inch casing set at 6335 feet. This is one of the last locations to be drilled on the Classen-Edwards lease, largest single lease in the field and probably one of the richest.

Arcadia Wildcat Finds Formations More Favorable

Oklahoma City. — Although Sinclair Prairie Oil & Gas Company's Kennedy 1, CSE SW Section 4-13n-1w, important wildcat test about two miles south of the town of Arcadia, has run consistently low on upper formations compared with the old Slick and Tidal test in Section 13-13n-1w, operators are finding a diminishing interval which may be decidedly faforable. Checkerboard lime at 4475 feet, was reported approximately 95 feet lower than Slick-Tidal's Martin 1, Section 13-13n-1w. Oswego lime was reported at 5247 feet and top of the Layton series at 3975 feet. However, it is learned that the interval between Pawhuska and Checkerboard limes was 30 feet less and between Checkerboard than Oswego limes, a thinning of 83 feet is reported, making the test actually higher than the reference well on top of the Oswego. Local geologists are divided in their opinions as to its chances of making a well. By comparison with the Oklahoma City type section it is running approximately 800 feet high on the upper formations. Southwest regional dip, however, takes care of probably more than 500 feet of this difference. Latest reports show the test drilling below 5581 feet with operators expecting to find Woodford shale and Hunton lime within 24 hours.

Grady County Wildcat Test Overcomes Casing Trouble

Oklahoma City.—English Drilling Company has swaged out the six-inch casing and is preparing to run a string of five-inch in Heenan-Coe 1, NE SE NE Section 32-3n-7w, important wildcat test near the town of Marlow in Grady County. Operators were preparing to test a showing in sand topped at 3266 feet when casing collapsed at 1920 feet. Considerable difficulty has been experienced in swaging out the string so that tools would go through.

Oklahoma Proration Officers Have Big Week Ahead

Oklahoma City.—The week ending Saturday, September 17, will be a busy one for the Oklahoma Corporation Commission. On Monday, September 12, it will hear argument on the Wright petition which suggests a common above-ground storage for the Oklahoma City pool, and on Wednesday will consider alleged proration violations.

The general opinion is that, although the Wright plan theoretically, has good possibilities, it would be impractical from an economic viewpoint due to the initial cost of equipment which would replace that already in use.

The first real step in prosecuting recent cases in alleged illegal production will be made on September 14, when the commission will take up charges against several producing, transporting and refining companies. It has been suggested that a referee be appointed to handle these cases but due to the importance of the illegal production question the commission has decided that it will hear the evidence and if necessary appoint referees to handle other cases of less importance.

A mass of testimony is expected in connection with the illegal production allegations and the cases may require several days. The commission has called for hearing and will try to make final disposition of charges against Marshall Oil Company. The hearing is scheduled for September 15 but may have to be postponed until the following week. Several weeks ago Marshall Oil Company was cited for alleged violation of proration regulations and an attempt was made to summon H. G. Marshall, president of the company. Marshall refused to accept the summons and the commission issued an attachment which is understood remains unserved.

Cicero Murray, who last week was promoted from lieutenant colonel to full colonelcy in recognition for his services in uncovering secret connections and illegal methods, has stated that his investigation is nearing a close but that no let-up will be made in the effort to prevent further violations of the proration rules. Although some minor irregularities may still exist, it is generally believed that the situation has been cleared up in good shape. Major operators have left nothing undone in their efforts to uncover illegal methods. Secret connections have been reported on several properties but proration authorities have not yet disclosed the means with which they will prove that oil actually was transported illegally through such connections. One operator is said to have connected two steam driven pumps into storage tanks through the foamite system in such a manner as to muffle practically all exhaust noises.

The investigation so far has resulted in the filing of cases against four producing companies and three transporting and refining companies with further citations probably to come within the next few days. Capitol Producing & Refining Company is charged with running 112,000 barrels of excess oil from its own wells, Refinery 1, Hills 1, and Pruitt 1; White Oak Refining Company is alleged to have run 650,000 barrels from R. A. McArthur's Armordale 1, Kammerdeiner 1, and Pruitt 1; and John H. Peacock is charged with 240,000 barrels from Hauser 1, Shepard 1, and Walker 1, formerly owned by C. C. Julian Oil & Royalty Company and now in the hands of a receiver. White Oak Refining Company's runs also are reported to have included oil from Plains Petroleum Company's Saddler 1 and Baum 1; Refiners Producers Company's Katy 1 and Buchanan 1; Gulf Production Company of Oklahoma's Banner 1; and S. M. Stauffer's Weinig 1, making a total of 15 wells and a total of 1,002,000 barrels of oil.

S. M. Stauffer is charged with an unknown amount of oil from Weinig 1; Blackwell Oil & Gas Company, 150,000 barrels from five wells; Russell Petroleum Company, 400,000 barrels from two wells, and Ed S. Holman, 125,000 barrels from one well, making a total of 675,000 barrels charged against the four producing companies and a grand total of 1,677,000 barrels.

Colonel Murray estimates that approximately 3,000,000 barrels of oil above allowable have been handled. A total of about 25 wells have been shut in for alleged violations.

Community Wildcat Finds Formation Markers High

Oklahoma City.—Wentz et al's Wolf 1, CSE NW Section 17-20n-2w, reported top of the Viola limestone at 5014 feet and penetrated that formation to 5075 feet. Eight-inch casing was then cemented at 5069 feet. Paleontologists were in general agreement that the formation is Viola and if the correlation is correct the test is running 165 feet structurally higher than Bu-Vi-Bar Oil Company's Snyder 1, a dry hole approximately four miles to

the northeast in Section 28-21n-2w. Wolf 1, a community test owned by Wentz and several major companies, is trying for an extension of the general trend which includes the Tonkawa, Billings, and Bu-Vi-Bar pools in Noble and Kay Counties.

A second Oklahoma wildcat which is being watched with considerable interest is Ramsey Petroleum Corporation's Duck Club 1, NW NW NE Section 10-16n-4w, approximately two miles due south of Eason Oil Company's Cotcha 1, discovery well in southwestern Logan County. When last reported it was drilling below 1990 feet. The test has not reached dependable markers and it will be a week or more before it can be checked on the upper formations. Its importance lies in the fact of its location on the Garber, Marshall-Lovell and Oklahoma City trend as well as its nearness to the Eason well.

Fish Area Operators Will Continue Proration Scheme

Seminole, Okla.—Hilton Phillips was shut down at 3901 feet after making 75 barrels of oil in 3½ hours from Cook 1, SW SW SE Section 21-7n-4e, in the area approximately mid-way between St. Louis and Pearson. Production is coming from Cromwell sand at 3490 to 3520 feet and Hunton lime at 3662 to 3901 feet. The latter formation is erratic over the Seminole district in places being entirely absent and of widely varying thickness where it is found. The 239 feet of Hunton in Cook 1 is an unusual thickness.

Phillips has staked location for Bettis 1, SE SE SW Section 21-7n-4e, west offset to Cook 1.

Fish Area

Operators in the Fish area have voluntarily agreed to continue estimating potential on the former basis and have abandoned plans for a 12-hour open flow gauge upon which the potential for September would have been based. As of September 1 the daily average potential was estimated at 34,740 barrels daily and the pool given a tentative allowable of 75,000 barrels for the month. The Wewoka-Holdenville area, in which the Fish pool is located, took a decided lead in Seminole activity when Ramsey Petroleum Company announced that it had farmed out acreage which would lead to the drilling of 16 tests within the next few months. The company is reported to have retained a one fourth overriding royalty on an agreement with three operators to start one well each within 30 days. Alexander Oliphant is to drill four wells in NW NW Section 14-7n-8e; S. E. Galbreath four in SW NW of the same section; and W. S. Key eight in the E½ NW. Oliphant already has spudded No. 1-A, SW NW NW Section 14-7n-8e.

Oklahoma Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
ATOKA COUNTY—		
Willis et al, Roland 1, se c nw se 6-1n-15e	*	1020
CARTER COUNTY—		
Jess Russell, Ratliff 1-A, ne nw sw 19-1s-2w	496	1856
Noble et al, Burton 1, ne c se nw 31-1s-2w ....15. hrs.	416	2355
Schermerhorn Oil, Cox 10, se nw se 23-4s-3w	*	1375
CREEK COUNTY—		
Carlson et al, Perryman 1-A, se sw sw 11-14-10e	*	3330
Blackstock & Atkinson, King 1, swc ne 31-16-7e	*	3800
Link Oil Co., Van Grafeiland 15, ne sw nw 33-18-7e	5	1416
Johnson Oil Refg., Carolind 1-A, ne c nw 1-19-9e	15	2052
Bailey et al, Lewis 1, ne sw sw 18-19-9e	¶3	2361
Holmes Oil, Deere 1-B, se sw se 25-19-9e	8	2126
Big Four Oil Co., Gamble 1, nwc sw 31-19-9e	¶½	2579
JEFFERSON COUNTY—		
Southern Oil Company, Seay 1, se nw se 3-7s-5w	*	1090
O. V. Beck, Seay 3, se nw se 34-6s-52, lcn abn.		
Seay 4, ne sw se 34-6s-5w, lcn abn.		
OKLAHOMA COUNTY—		
Slick-Urschel, Inc., No. 14 Classen-Edwards, swc nw ne sw, 3-11-3w ....5 hr. ¶30-7465		6505
I. T. I. O. et al, Lawrence Place 6, nw sw ne 15-11-3w ....4 hr. ¶26-3597		6493
OKMULGEE COUNTY—		
C. D. Burns, Anderson 17, nwc sw ne 34-14-14e	12	1160
OSAGE COUNTY—		
Lewis Production et al, 1, ne c se 28-24-7e	130	2662
G. M. Buckner, 1, swc 6-26-9e....	*	1310
PONTOTOC COUNTY—		
Stanolind O&G, Allen 1, se c ne 32-5-5e (owdd)	72	2368
POTTAWATOMIE COUNTY—		
Magnolia Pet., School 15, 1, nwc ne 36-6-4e	85	2975
H. H. Taylor et al, Bean 1, swc nw 36-7-4e	370	4225
SEMINOLE COUNTY—		
Amerada Pet. et al, Chase 5, ne c sw 29-9-6e 2138		4104
Gypsy Oil, Pompey 2, se c nw 29-9-6e	431	4142
STEPHENS COUNTY—		
Pace et al, Dilly 3, nwc sw sw 22-2s-7w	140	1755
Pace, McDonnell 1, ne nw ne 28-2s-7w	*	1936

New Operations

ATOKA COUNTY—Dr. Barton, Miller 1, swc ne sw 26-1n-14e.

CREEK COUNTY—Hyder & Horner, Bruner 2, ne c se nw 15-14-10e. Billingslea et al, Wayman 4-A, se c nw nw 22-15-8e. Johnson O&R, Bible 5, se c sw sw 20-19-9e. Holmes Oil, Deere 2, ne c nw ne 36-19-9e.

HUGHES COUNTY—Southern Oil Co., Adams 1, se c nw sw 14-7-8e. Dailey et al, Davis 1, nwc ne nw 29-7-8e.

OKMULGEE COUNTY — Harris & Hays, Creek Orphan Home 1-A, se c nw sw 4-13-13e. W. Christian, Flynn 1-A, nwc ne se 20-14-12e. J. L. Selby, Stevens 13, nwc ne sw 10-14-14e. J. E. Wallace, Colbert 10, nwc ne nw 14-14-14e. Castelman, Thomas 7, ne c sw se 23-14-14e.

SEMINOLE COUNTY — W. J. Schwab, Harjo 1-A, nwc sw nw 2-8-5e. Amerada Pet., Chase 7, nwc se 29-9-6e.

STEPHENS COUNTY—George Pace, Butler 2, nwc se se 35-2s-7w.

Wildcat Drilling Report

(Wells shut down not included)

OSAGE COUNTY—Mohawk Oil 1, ne c 10-26-9e, sd 1633 ft.

KAY COUNTY — Blubaugh et al, Makeswater 1, c nw ne 30-25-1e, sand 2556-63 ft, dr 2575 ft.

ELLIS COUNTY—Algers Pet. Co., Roper 1, c se nw, 21-20-24w, td 50 ft, sd.

NOBLE COUNTY—Wentz Oil Corp. et al, Wolff 1, c se nw 17-20-24w, Upper Layton 3956 ft, Oswego 4643 ft, dr 4860 ft in shale.

BLAINE COUNTY—Washoma Oil, Phillips 1, c nw sw 13-19-10w, td 5115 ft, D&A. Watonga Pet., Masters 1, sw nw nw 27-16-11w, td 375 ft, sd.

CREEK COUNTY—O. O. Owens, Fee 1, nwc, 23-15-7e, r.u.s.t.

OKLAHOMA COUNTY — Sinclair-Prairie, Kennedy 1, c se nw 4-13-1w, Checkerboard L., 4470 ft, dr 4840 ft in shale.

LINCOLN COUNTY — Sovereign et al, Flower 1, sw se se, 14-12-3e, ru.

BECKHAM COUNTY—Pattee Royalty Co., Goose Tree 1, sw se sw se 32-10-23w, 12 inch 443 ft, td 475 ft sd.

WASHITA COUNTY — Miley Pet. Co., Montgomery 1, sw nw se nw, 23-9-17w, 10-inch 787 ft, td 890 ft, sd. Burns & Prince, Dock 1, swc, 31-8-18w, sd sh 2080-90 ft so, td 2162 ft, sd.

SEMINOLE COUNTY — Hudspeth et al, Harrod 1, sw ne, 3-8-8e, rog. Donley et al, Shepard 1-B, se ne, 4-8-8e, dr 1040 ft.

PITTSBURG COUNTY—Moffett & Hall, Jones 1, c ne nw, 14-8-14e, td 1675 ft, fsh tools.

KIOWA COUNTY—Christian, James 1, ne se, 8-7-18w, dr 153 ft, broken lime and shale.

PITTSBURG COUNTY—Nelson & Flynn, Anderson 1, se sw 12-7-12e, td 2900 ft, sd. Cannady-Travis 1, c sw ne 5-7-14e, lcn abn. Morrison, Fouler 1, c se ne, 13-7-17e, lcn abn.

KIOWA COUNTY—McWhirter Bros., Kline 1, se sw, 5-6-16w, dr 830 ft.

PONTOTOC COUNTY — Blackwell O&G, Abbott 1, nw sw ne, 14-4-6e, dr 90 ft. Sunray Oil, Grant 1, c se ne, 11-4-8e, dr 1715 ft.

GRADY COUNTY—English Drlg. Co., Heenan-Coe 1, ne se ne, 32-3-7w, cored sand 3255-87 ft, SO&G, dr out cement, casing parted at 1900 ft, set 6-inch cas at 3266 ft, swaged out cas and sd.

PONTOTOC COUNTY—Williams, Kroth 1, ne se 33-3-4e, Belle City L. 350 ft, S. 378-81 ft asphalt, dr 400 ft. Edna-Marie Oil, McWhirt 1, ne se 11-2-6e, sd 515 ft.

COAL COUNTY—Fink & Russell, Miller 1-A, se ne, 10-2n-8e (owdd) sd 2500 ft. Dodd & Burton, Grigsby 1-A, nw se ne 35-1-8e, lcn, moving in tools.

ATOKA COUNTY—Winham et al, Redwin 1, se sw sw 23-1-14e, td 135 ft, sd. Barton et al, Miller 1, ne sw sw, 26-1n-14e, dr 120 ft. Hicks et al, Morris 1, ne nw se 5-1-15e, dr 442 ft. Willis et al, Roland 1, nw ne se 6-1-15e, set 5-inch 1000 ft, moved out mach. Newman, Bassett 1, c nw, 18-1-15e, td 165 ft, sd.

McCURTAIN COUNTY — Stampfs et al, Harris 1-A, sw nw sw 14-9s-25e, td 2778 ft, sd.

MARSHALL COUNTY—Hughes, Ayres 1, ne se 30-7s-7e, set 6-inch 823 ft, td 856 ft, w. o. c. s.

BRYAN COUNTY—C. A. Hahner, White 1, nw ne nw 28-6s-8e, S. 1230-33 ft, so.

MARSHALL COUNTY—Thomas et al, Setliff 1, sw se se sw 36-5s-6e, dr 1387 ft in shale.

JEFFERSON COUNTY—Shasta Oil, Bollinger 1, sw ne sw, 26-4s-6w, dr 1874 ft, sdy shale. E. S. Bonner, Burgess 1, ne se 12-5s-8w, dr 750 ft.

ATOKA COUNTY—Brookshire et al, Guinn 1, nwc 18-3s-10e, Viola 2715 ft, Sylvan 2585 ft, td 2842 ft, sd.

STEPHENS COUNTY — Gillette Bros., Cooley 1-A, nw se nw, 17-2s-8w, rig.

ATOKA COUNTY—Morris et al, Ray 1, 8-2s-12w, ne nw ne, td 610 ft, sd, machine moved out. Malarnee et al, D. O. K. Land Co. 1, c e½ se 35-2s-13e, dr 50 ft.

COAL COUNTY—Radial Oil, Richardson 1, ne nw 2-1s-8e, td 1450 ft, ru.

ATOKA COUNTY—McClure et al, Little John 1, ne nw ne sw 9-1-14e, (owdd) old td 200 ft, mach.

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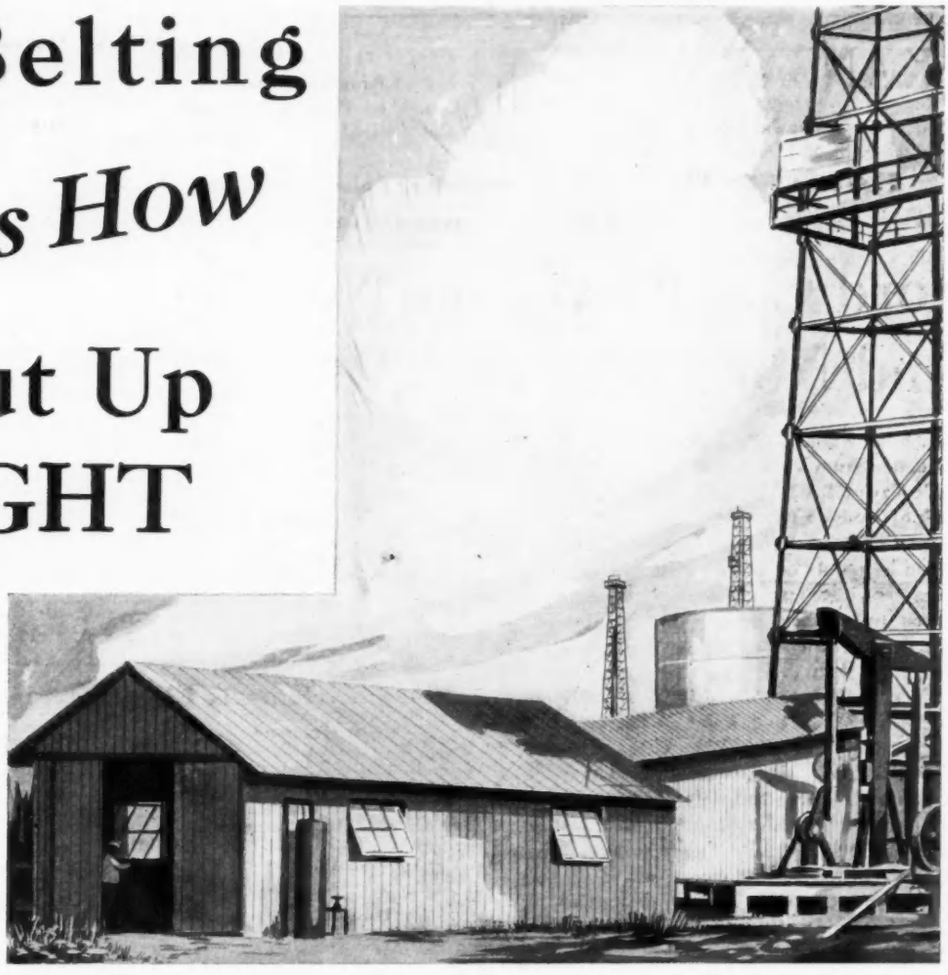

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KANSAS FIELDS

Unable to Stop Water Showing in Kingman County Well. South of Voshell Destined to Get Considerable Testing.

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Ford County Gasser Not Big And Not From Viola

Wichita, Kansas.—Reports of big gas production from Viola limestone in Swaim et al's Taylor 1, CNW Section 21-25s-24w, north of Dodge City in Ford County, now seem definitely erroneous. Information sent in by scouts of several oil companies states that the test made only a small amount of gas and many geologists believe this to be coming from Mississippi lime rather than Viola. Two weeks ago it was reported that while drilling at 5209 feet with 4000 feet of water in the hole, gas estimated at 50,000,000 cubic feet, cleaned the hole. It was also stated that Viola lime had been encountered. One report gave the depth at 5187 feet, and another at 5209 feet. Drilling was subsequently continued to 5232 feet, where the test is reported shut down for repairs and still carrying about 4000 feet of water with some gas bubbling through.

Kingman County

Skelly Oil Company had not been successful in shutting off water encountered in siliceous lime in Leisman 1, CSE SW Section 20-27s-10w, which several weeks ago produced at the rate of about 25 barrels an hour and was making gas at an estimated rate of 26,000,000 cubic feet. Production was found in the lime at 4093 to 4095 feet and the well was making some water and b.s. on initial tests. Operators originally thought that the cut was due to water used in loading the hole and believe that it would soon clean up. After several days the cut had not materially declined and it was decided that water was from the bottom of the hole. In the first stage it was plugged back to 4182 feet, above the point at which operators thought the first oil was encountered. It was being plugged back a second time and may eventually be plugged back to the Kansas City-Lansing where it had a hole full of oil. The test has been closely watched since it encountered oil in that horizon. Twice afterward it was estimated good for more than 20,000,000 cubic feet of gas. This is not an unusually large volume but is above the average for western Kansas wells in the Kansas City-Lansing and Viola formations. Viola lime production in most of the other western Kansas pools has practically no gas and must be pumped early in the flush stage.

South of Voshell

John E. Mabee, Tulsa drilling contractor, and Shell Petroleum Corporation have completed the rig for Nickel 1, NE NE SW Section 33-21s-3w, slightly over a mile south of production in the Voshell pool proper. L. A. Mylius' Ediger 1, NE SE SE Section 16-21s-3w, which extended production in the Voshell pool a half-mile southward, is being rated as high as 40 barrels an hour from Viola lime at 3413 to 3422 feet. Present indications are that what apparently was the defined south limit of production in the Voshell pool is actually a structural saddle which opens to the south and the area may be due for considerable development.

Ritz-Decker-Garrett

Carter Oil Company shot with five quarts and swabbed eight barrels an hour from Tinsley 1, NE NE SE Section 6-20s-1w, in the older portion of the Ritz pool. Production is coming from Viola limestone logged at 3416 to 3425 feet. Lario Oil & Gas Company has staked locations for Ritz 2-A, NE NE SW, and A. J. Miller 2-B, SE SE NW Section 6-20s-1w, approximately a half-mile west of Carter Oil Company's Tinsley 1.

Kansas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Flint Hills Oil Co., Martin 5, ne nw ne 27-28-4e	¶3	1514
E. V. Shawver, Snyder 1, ne c sw ne 27-32-4e	83	2383
ELK COUNTY—		
Marrow et al, Daughill 1, se c nw ne 28-28-12e	*	1827
GREENWOOD COUNTY—		
A. M. Landon, Smith 2, nwc se nw 8-24-12e	250	1738
A. M. Landon, Smith 3, nwc sw nw 8-24-12e	300	1744
HARVEY COUNTY—		
F. H. Hollow, Church Lot 1, swc nw 20-22-3w (owdd)	594	3514½
McPHERSON COUNTY—		
Darby Pet., Kaegi 1-A, ne c 20-19-1w (owdd)	582	3385
Helmerich & Payne, Johnson 1, ne c sw ne 13-19-2w	1586	3409
W. C. McBride, Inc., Griffin 1, swc ne sw 14-19-2w (owdd)	¶27-648	2969
Shell Pet. Corp., Johnson 4, ne c nw 2-20-3w	¶19-515	3039
Gypsy Oil, Stucky 2-C, ne c 33-20-3w	¶8-1025	3459
RICE COUNTY—		
Shell Pet. et al, Murphy 1, swc nw ne 4-19-9w	*	3330
SEDGWICK COUNTY—		
Shell Pet., Brag 2, swc nw sw 14-26-2e (owdd)	*	3404
Shell Pet., LyGrisse 3-B, ne c se sw 15-26-2e (owdd)	217	3200

New Operations

COFFEY COUNTY—Baker et al, Hurtz 1, swc nw nw 31-20-14e.

COWLEY COUNTY—Roth et al, SW. College 5, nwc se se 22-32-4e.

GREENWOOD COUNTY—Gore & Phillips, Brothers 3, nwc ne nw 35-23-11e. Paul et al, Bryden 1, ne c se 36-25-8e.

MARION COUNTY — Vernon-United Pet. Co., Schmidt 1, ne c sw nw 35-19-1e.

McPHERSON COUNTY—Derby Oil, Gypsy Oil, Sellers 1, swc nw 19-19-1w (owdd). Derby, Lacquement 3, swc se 20-19-1e. Keys Pet., Webster 1, ne c sw ne 21-19-1w. Slick, Pryor & Lockhart, Stucky 2, swc 27-20-3w. Sinclair-Prairie, Stucky 1, se c 28-20-3w. Slick, Pryor & Lockhart, Grattan 3, nwc 34-20-3w. Spencer et al, Neufeldt 1, se nw se 16-21-3w. Stanolind & Amerada, Zerger 3, ne c sw se 16-21-3w.

Wildcat Drilling Report

(Wells shut down not included)

SUMNER COUNTY—Austin et al, Foy 1, sw se se, 14-34-1w, 1970-80 ft hfw, 10-inch 2035 ft, dr 2400 ft.

HASKELL COUNTY—Victor Martin et al, Weeks 1, c nw, 8-28-31w, rig.

SEDGWICK COUNTY—Cameron and Great Basin, Landson 1, c se nw, 13-28-2e, fsh 2520 ft.

PRATT COUNTY—Ninnescah O&G, Hardesty 1, sw se se 28-27-11w, 2135-42 ft S. G., 8-inch 2305 ft, td w. o. c. s.

SEDGWICK COUNTY — Scroggins et al, Bartlett 1, nw se nw nw 35-27-1e, hfw 1250 ft, dr 1522 ft.

FINNEY COUNTY—Joe Denham, Brown 1, c sw 16-25-34w, rig.

FORD COUNTY—Swain et al, Henthorn 1, c nw, 21-25-24w, S. O. 5205-9 ft, td hfw, dr 5220 ft.

EDWARDS COUNTY — Mid-Kansas, Converse 1, sw ne ne 30-24-18w, 8-inch 4262 ft, Miss. 4595 ft, dr 4685 ft.

HARVEY COUNTY—Liggett et al, Davis 1, sw se ne 7-24-1e, 6-inch 3125 ft, dr 3340 ft.

FINNEY COUNTY — National Refg. Co., Wells 1, swc, 13-23-30w, dr 5820 ft.

HARVEY COUNTY—Herndon et al, Santa Fe 1, nw sw 19-23-1e, 15-inch 255 ft, 12-inch 1425 ft, dr 2220 ft.

MARION COUNTY—Darby et al, Pankratz 1, nw se, 5-20-1e, spd 105 ft.

RUSH COUNTY—Barnsdall et al, Schultz 1, swc, 3-19-16w, 12-inch 1118 ft, dr 1330 ft.

BARTON COUNTY—Skelton Oil, Ott 1, c se se 16-19-14w, td 3604 ft, co.

MARION COUNTY—Detrick et al, Dalke 1, nw se, 16-19-1e, 8-inch 2697 ft, td 2868 ft, w. o. c. s. Vernon & United, Schmidt 1, csw nw 35-18-1e, lcn.

BARTON COUNTY—Smith, Ash et al, Wilson 1, c nw sw 13-18-14w, anhydrite 834 ft, 12½-inch 835 ft, dr 840 ft. Doherty et al, Roesler 1, sw ne 11-18-11w, base salt 1359 ft, dr 1370 ft.

McPHERSON COUNTY — Sidwell et al, Nichols 1, ne nw nw 28-17-1w, 15-inch 580 ft, td 1205 ft, sd.

ELLSWORTH COUNTY—Raymond Gear et al, Sauberli 1, c sw se 29-16-9w, hfw 2105-20 ft, Congl. 3190-5 ft, 8-inch 3195 ft, dr 3220 ft. Phillips, Hockman 1, se nw se 17-16-7w, ru. Viking Oil, Satran 1, c nw sw, 5-14-9w, td 600 ft, ur 8-inch. Gurley Bros., & Barnsdall, Union Pacific 1, nw sw 7-14-7w, dr 335 ft. Walker Oil, Remley 1, sw se ne, 23-14-7w, 10-inch 2188 ft, td 2690 ft, rng cas.

DOUGLAS COUNTY—Colby et al, Featherson 1, c se se 27-14-18e, dr 1320 ft. Pure Oil, Lemb 1, nw se 31-14-19e, 8-inch 1450 ft, dr.

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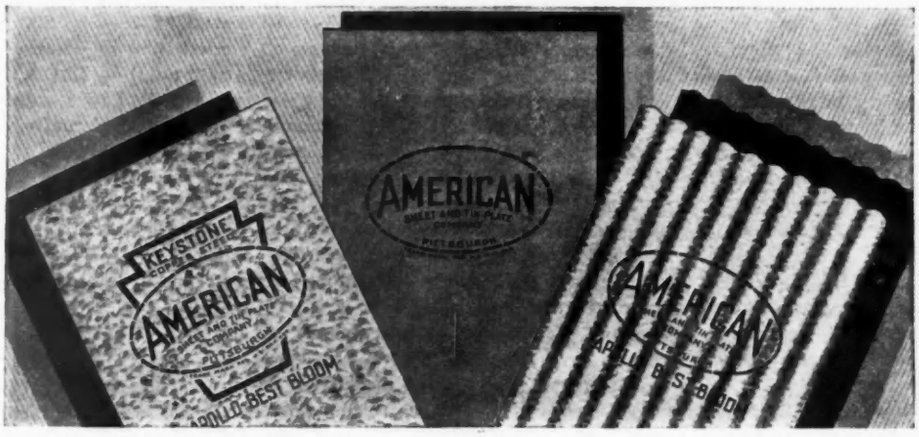

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EAST CENTRAL TEXAS

Big Order for Derricks Confirms Report of Pending Aggressive Drilling Campaign to Start Immediately.

H. H. KING, *Staff Representative, Fort Worth, Texas*

Big Operators Preparing For Aggressive Drilling

Tyler, Texas.—A renewal of aggressive work in the East Texas oil field is contemplated by some of the larger acreage owners. Humble Oil & Refining Company is reported to have staked more than 200 additional locations to be drilled promptly, and to carry out this program has placed an order for 75 94-foot steel derricks to be delivered immediately. A deal is pending for the purchase of additional derricks, and drilling contractors are preparing for another long run of work, as Humble Oil & Refining Company's rotary rigs available for use in the field will not be adequate. Gulf Production Company is also said to be planning to resume active development of its undrilled locations, while other companies will be pressed into action by this change in attitude by the leaders.

Refusal of the commission to alter the proration plan in force in East Texas so as to kill the incentive for continued drilling is a factor behind the revival of drilling. Then Humble Oil & Refining Company, Gulf Production Company and others have been pressed by royalty interest holders and individuals who bought oil payments under a given lease to keep pace with offsets. Delay in drilling up inside locations has also been protested by royalty owners. Many of the major companies are inclined to maintain their production on the same percentage basis of the field's total as their acreage is related to the total area of the field. Unless the ratio is upheld the partially drilled acreage would be exposed to uneven drainage.

The practice of sub-dividing old leases to make room fro more locations, and crowding in of extra wells on small sites is steadily giving the independent operators and companies a greater percentage of the daily output of the field. Their total acreage remains stationary. As long as a straight well allowable and flowing production prevails there will be reasonable volume of drilling activity. When the independents furnish this development work their completions cut into the allowance of others, and at the same time require more connections from the major pipe line companies. The independents are not worrying about the consequences of continued drilling, as they are confident that with a friendly commission the allowable will not be cut to an uneconomic level. They are willing to take a chance on locating a market outlet for their production.

Out of an ordinary run of completions making large initial flows in the field during the past week a few wells along the rim of the field came within the classification of "cripples," or were completed as failures. An apparent failure has been scored on the west edge of production in Gregg County by Russell Petroleum Company's A. A. King 1, J. M. Bradshaw Survey, which is making bottom hole water with a small amount of oil in sand at 3763½-66 feet. This 117-acre lease was farmed out by Continental Oil Company originally to Robt. Jordan of Tyler and associates, but they failed to complete their first test, and the lease was turned to Russell Petroleum Company for an oil payment.

The penalty of a dry hole was sustained by Colaco Oil Company, Dallas, in overstepping the dead line for production on the west side of the field in Gregg County in drilling W. & S. Vaults 1, located in southeast corner of 39½-acre lease, G. F. Penn survey. Woodbine sand was topped at 3705½ feet, and penetrated only six inches, making a sub-sea depth of 3344 feet. A Halliburton sand testing tool set at 3685 feet yielded no oil or gas, but sufficient salt water to brand the test as a failure. Shell Petroleum Corporation farmed out this lease for an over-riding royalty interest.

Acreage lying immediately northeast and east of the Kilgore townsite continues to receive development through aggressiveness on the part of small operators although production is small in volume. W. C. Turnbow Petroleum Company's Knowles 1 barely made its proration allowance in flowing by heads after drilling sand and shale at 3540-3585 feet. J. E. Devant et al's Rowland 1 flowed 15 barrels oil per hour through open tubing from broken formation at 3525-3580 feet. J. I. Roberts Production Company's Elder 1, located near Magnolia Petroleum Company's warehouse, swabbed 30 barrels of oil and 15 barrels water daily through casing at 3585 feet, and will set tubing to complete. This water is believed to be due to drilling fluid in the sand, or from casing leak, as no bottom hole water is due in this section of the field.

Plugging orders have been issued for Marr Drilling Company's Rettig 1, located nearly half a mile south of the most southern oil well in the East Texas field, after developing salt water at 3745 feet. This failure is on the north line of 85-acre lease farmed out by Stanolind Oil & Gas Company. It was drilled to a sub-sea depth of 3396 feet, but is actually shallower because of a crooked hole.

R. H. Vise and associates have apparently avoided water in drilling W. O. Alford 1, located on the west edge of production and south of Overton, to a sub-sea depth of 3316 feet for an initial flow of 150 barrels of pipe line oil per hour through open two-inch tubing. This outpost is located near the center of the H. B. Dance survey, and on a lease farmed out by Shell Petroleum Corporation. As a precaution against water the well penetrated only two feet in the sand to 3809 feet.

Bottom hole water made its appearance upon the completion of a Smith County outpost well by Cockburn and Hooker, Overton operators, in the southeast corner of the Lula A. Jackson 27.8-acre lease, E. Daniel survey. This well showed five per cent salt water in flowing 60 barrels per hour through open two-inch tubing from one foot of sand with the hole bottomed at 3811 feet, or 3329 feet below sea level.

Increased Allowable Makes More Cheap Oil Available

Tyler, Texas.—Brokers of spot crude originating in the East Texas field from various sources were upholding their prices late last week in the face of a greatly augmented supply due to the majority of the purchasing companies having refused to accept and purchase the seven-barrel per well increase sanctioned by the Texas Railroad Commission September 1. An average minimum price of 65 cents per barrel loaded aboard tank cars has been and is still quoted by the producers and brokers dealing in spot oil. Since the gathering and loading charges are included in these offers the price can be considered to be about one-third less than the price paid for oil at the well by all major companies. Refiners within and outside the district that now receive spot

crude from East Texas have a big cost advantage over other Mid-Continent and Coast plants that pay the posted price and usual transportation charges for their crude.

Spot crude moving from East Texas often includes batches of oil produced in violation of proration rules. A number of independent producers have lately broken off well connections with major companies paying off monthly at 98 cents per barrel to hook up with spot crude brokers, who pay less but are inclined to be lenient as to the volume of oil accepted.

The majority of the independent refiners situated within the East Texas oil field are buying their crude requirements at less than the current tank car price through having private arrangements with producers and brokers on a steady basis. Deliveries are made by pipe lines, or tank trucks. This access to cheap crude enables the plants to continue operating in the face of decreased revenue from refined products.

Land Owners Protest Violations of Proration

Kilgore, Texas.—Owners of royalty interests under producing leases in the East Texas oil field are again staging indignation meetings at various points in the field to protest against repeated proration violations by groups of operators, and apparent tolerance on the part of state authorities in penalizing the guilty parties. The landing of militiamen in the field in August, 1931, to close in all wells until order could be restored was partially due to demands made by this same group of royalty owners to the governor, and they are again prepared to demand that violators be checked in their activities.

The first of a series of proposed meetings was staged at New London, September 3, and a larger turnout occurred at a meeting held here September 7. A resolution was approved at the latter meeting to authorize 15 of the leading farmers to appear as a committee before the commission at Austin September 12 and request more rigid enforcement of proration. The committee will also petition the commission to close in the wells of violators until excess production is balanced with allowable production. Should the commission disclaim power to deal with violators in such a manner the group plan to try for the passage of a bill before the Texas legislature that will permit the closing down of wells found exceeding proration allowances until the overage is made up. The present method of dealing with violators is for the state to obtain a temporary court restraining order, but same is not effective.

Unequal Production and Buying Causing Market Confusion

Tyler, Texas. — Confusion that has resulted from the unexpected hike of seven barrels in the well allowable on September 1 in the East Texas oil field and refusal of the majority of the purchasing companies to accept the order has placed a severe strain on the crude price structure. Four major companies have increased their runs from controlled and outside leases to 50 barrels daily, while several others have arranged to take the higher allowable from wells that are offset by producers making the increased quota in order to equalize drainage and forestall complaints from royalty owners. Many of the companies that have adhered to the 43-barrel allowable are receiving all the crude they require, and threaten to stand pat on the matter, since it is impossible to unload a single connection on other buyers that pay the 98-cent posted price. This deadlock will probably prevail until the Texas Railroad Commission yields to pressure directed towards a lower well allowable as a preventative step toward warding off a price reduction.

Sinclair Prairie Oil Marketing Company was the first of the majors to adopt the 50-barrel allowable, although Arkansas Fuel Oil Company automatically accepted the increase on the bulk of its wells because of having contracted to produce the authorized quota in connection with its 100-well drilling contract. The latter has assigned an oil payment to a contracting firm that drilled 100 wells for a flat fee per well, payable from oil production. Gulf Pipe Line Company adopted the new allowable, and Magnolia Petroleum Company fell in line after sticking to the 43-barrel allowance until the morning of September 6. East Texas Oil Refining Company, one of the largest independent refiners in the field, sponsored the 50-barrel allowable along with Carl Estes, Tyler newspaper editor, Tom E. Cranfill, Dallas operator, and others. This refining unit is credited with having sold considerable gasoline for future delivery to Atlantic Coast and other points.

In order to avoid criticism and possible litigation from royalty interests Atlantic Oil Producing Company has adopted the 50-barrel well allowable for all connections offset by wells producing such an amount, but will restrict all other wells to 43 barrels daily. East Texas operators with a desire to exceed their proration allowables are having their inning while this seven-barrel differential exists, as the enforcement staff are not capable of stopping violations while it is difficult to determine if alleged excess oil is involved when a tender is made to tank truck operators and pipe lines. There are numerous companies and individuals that are alert to this opportunity to exact added revenue from their wells. The crude market will naturally be confronted with an increased supply of distressed price crude that will undermine the general price structure as the crude reaches refiners.

Franklin County Wildcat Production Test Delayed

Tyler, Texas.—Franklin County's bid for a wildcat producer from the Woodbine sand horizon has been delayed in completion through difficulty in landing liner below the 6⅝-inch casing at about 3247 feet. This promising wildcat project was drilled by L. S. Harper, J. F. Mills, A. P. McGee and B. H. Ashby in the northeast part of the L. S. Harper 118-acre tract, W. N. Dawson survey, about 10 miles northwest of Mount Vernon. During the several months interval separating the supposedly extraction of a saturated oil sand near the 3300-foot level the owners of the well have expended approximately $50,000 for additional acreage along the fault zone, and scores of other individuals and companies have also participated in the lease blocking activity. All reasonably close acreage has been leased, and withdrawn from the market until a showdown on the well occurs.

In the event of a successful completion of this wildcat test an intensive drilling program will follow, while any evidence of oil or gas will lead to the drilling of more tests nearer the fault. Geologists in close touch with the situation are of the opinion that the location is too far removed to the south from the point where the fault is visible on the surface. The available sub-surface data on the area offers a favorable faulted structure.

Exceptionally fast progress has been made on wildcats launched lately in the Woodbine sand belt. In Anderson County, Jack W. Frazier and Service Drilling & Royalty Corporation's H. L. Hudson 1 is drilling below 4150 feet after logging top of Austin chalk at

4130 feet, with a surface elevation of 373 feet. Clint W. Murchison-Golding et al's wildcat on the Benton tract, Henderson County, is reported to have topped the Pecan chalk at 2745 feet, with a surface elevation of about 550 feet, and late last week was drilling below 3500 feet in chalky shale. Marr Drilling Company and Stanolind Oil & Gas Company's Green 1, Cherokee County wildcat, had reached a depth of 2735 feet middle last week.

Tyler, Texas.—Five new locations ordered drilled within the Van field proper last week restores the volume of activity to the highest point that has been reached in several months, with a total of 10 operations listed on the current report. Four of the new locations were assigned to unitized leases, and one to the Carroll district.

Pure Oil Company's R. L. Wells 14, located in the southeast part of 51½-acre lease and southwest of the Van townsite, gauged 68 barrels of oil per hour on initial flow through 11/16-inch choke on 2½-inch tubing after penetrating 370 feet of sand, with shale breaks, to a total depth of 2927 feet. This company's Ella York 9, located in the northeast edge of the field, failed to flow when originally tested in sand and shale at 2830-2929 feet. The initial pumping gauge credits it with making 50 barrels fluid, 12 per cent salt water, during first 14 hours. It was drilled to a sub-sea depth of 2450 feet, being the accepted deadline on penetration to avoid bottom hole water over the greatest portion of the field.

Central East Texas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
JOINER AREA—		
American Liberty Oil Co. (Murchison), C. Young (10-ac) 2-B	8500	3718
Arkansas Fuel Oil Co., J. E. Wheelis (81-ac) 6	4500	3670
Belrice Oil Co. (Clint Murchison), C. Young (40-ac) 1	7200	3691
Cockburn & Hooker, L. A. Jackson (28-ac) 1	2000	3811
C. P. Oil Co., Giles (30-ac) 4	6500	3764
E. L. Chapman (Dave Donoghue, Rec.) W. P. Moore (10-ac) 2	7000	3671
Conservative Oil Co., L. Harmon (33½-ac) 8	8400	3810
Geo. Demontrand Oil Corp., L. J. Pinkston (24.2-ac) 3	8000	3630
Walter H. Gant & Garvin, W. P. Moore (134-ac) 3	6200	3623
John W. Hooser et al, G. W. Eaton 3-A	9600	3740
G. W. Eaton (21½-ac) 4-B	4500	3810
Humble O&R Co., John Bell (92-ac) 5	8600	3804
J. R. Lindsey (45-ac) 3	9000	3777
W. L. Price (206½-ac) 21	8500	3802
Heywood White (134-ac) 3-B	6000	3720
H. L. Hunt Prod. Co., O. R. Holt (11½-ac) 2	4500	3775
Indian State Oil Co. (R. L. Tennant, Rec.) L. Taliaferro (5½-ac) 2	3000	3740
McClanahan & Venable Oil Co., Flanagan (33-ac) 4	9000	3655
Mid-Kansas O&R Co., H. C. & G. W. Burton (148.8-ac) 9	3500	3622
M. M. Cross (814-ac) 35	7200	3641
M. C. DeGuerin (158-ac) 8	6500	3653
W. T. Grissom (842-ac) 20	8000	3637
H. D. Kelly (86-ac) 4	5000	3694
D. Ledbetter (212-ac) 10	2000	3645
E. E. Moores (182-ac) 12	5000	3665
Geo. W. Moore (92-ac) 4	8200	3670
S. H. Moore (193-ac) 9	8000	3716
J. H. Sharpe (482.67-ac) 13	7400	3688
Stanolind O&G Co., R. G. Mason (107-ac) 4	8700	3623
Stanolind-Pure Oil Co., R. A. Moores (251-ac) 17	9600	3610
R. J. Burton (145-ac) 12	8000	3643
W. H. Siler (949.6-ac) 22	10,000	3669
W. H. Siler (949.6-ac) 23	7800	3652
Sun Oil Co., R. J. Hendon (120-ac) 2	3500	3640
Horace Schuyler (50-ac) 4-A	4500	3675
The Texas Co., L. J. Pinkston (80-ac) 7	7500	3655
Ward Oil Corp. et al, J. M. Finney (24-ac) 7	2000	3700
J. S. Wheelis (was C. B. Bunte) et al, G. Patterson (182-ac) 2	2000	3680
KILGORE AREA—		
Arkansas Fuel Oil Co., Hughey-Ross (220-ac) 10	6500	3552
Atlantic Oil Prod. Co., G. Davis (20-ac) 2	8200	3583
Baggett & Byers, Heroines of Jerico 1	7000	3734
Barnsdall Oil Co., J. Douglas-Shell (138-ac) 8	8500	3663
F. A. Bates et al, M. T. Cole (40-ac) 3	10,500	3572
J. E. Davant et al, Rowland 1	800	3580
Galvez Oil Corp., M. T. Cole (40-ac) 5	5500	3557
G. & A. Oil Co., Robertson-Shell (90-ac) 2	7000	3645
Gulf Prod. Co., S. Hilburn (200-ac) 39-B	9500	3537
S. Hilburn (36-ac) 40-B	10,000	3546
Houston Oil Co. et al, M. T. Cole 3	8000	3554
H. T. Elder (16-ac) 3	6000	3614
M. B. Hughey (60-ac) 3	9600	3548
K. Hughes & Foley, Adkins (9-ac) 3	5000	3644
T. A. Johnston & John Owens, M. T. Cole (29-ac) 2	11,00	3538
Jones-Doss Oil Co., L. Martin (47-ac) 5	12,000	3750
Roger Lacy et al, Fee 2	7200	3590
Lambert & F. P. Hynes, D. Hilburn (35-ac) 2	8400	3702
Magnolia Pet. Co., Marvin Andrews (54-ac) 1	11,000	3611
Mary Goyne (25-ac) 1	12,000	3668
W. H. Matthews et al, Lula Martin (20-ac) 2	13,000	3759
Mead Oil Co., I&GN Ry. (7¾-ac) 1	6500	3612
Navarro Oil Co., R. N. Brightwell (113-ac) 8	10,000	3653
Pelican Nat'l Gas Co., Spear-Laird (92-ac) 5	7000	3667
J. E. Radatz et al, M. T. Cole 2	8400	3540
Radatz & L. L. Travis, Sabine River Bed 1, Tract No. 8	12,000	3466
Salmon Oil Co., W. Smith (10-ac) 3	8800	3566
Shell Pet. Corp., D. Carr (100-ac) 2	6500	3455
N. Jobe (60-ac) 3	8400	3561
B. F. Laird (211-ac) 7-A	7500	3566
M. J. Register (50-ac) 2	8500	3601
Sinclair Prairie Oil Co., A. A. Lockhart (133-ac) 11	8000	3680
H. R. Smith, Inc., R. Gray (31-ac) 3	9000	3667
Stanolind O&G Co., J. R. Beall (83-ac) 7	7200	3664
Sun Oil Co., G. Reese (124-ac) 9	9600	3688
The Texas Co., M. T. Cole (220-ac) 6	8500	3563
W. C. Turnbow Pet. Co., Knowles 1. 150		3585
LONGVIEW AREA—		
Amerada Pet. Corp., M. Killingsworth (100-ac) 8	9000	3518
Arkansas Fuel Oil Co., W. T. Burnside (209-ac) 9	10,500	3514
J. C. McKinley (69-ac) 4-B	15,000	3577
E. M. Whatley (43.91-ac) 2	7400	3554
Atlantic Oil Prod. Co., Ethel Burnside (204-ac) 16-A	9500	3543
W. T. Burnside (230-ac) 12-B	10,000	3522
W. T. Burnside (230-ac) 17-B	11,000	3579
W. T. Burnside (230-ac) 18-B	10,500	3518
J. C. Judge (520-ac) 24	9600	3523
J. C. Judge (520-ac) 25	9200	3527
J. M. Moore (456-ac) 24	10,000	3525
Atlantic & J. K. Wadley, M. Turner (161-ac) 11	8500	3633
California Pet. Corp. of Ven, W. M. Clements (60-ac) 6	5500	3760
Deep Rock Oil Co., & Murphy, H. Pritchard (105-ac) 8	11,500	3602
East Texas Oil Ref. Co.-M. E. Croom & Heyser-Heard, Hineman (2½-ac) 1	11,000	3684
Galvez Oil Corp., Mrs. G. Moore (51-ac) 5	9500	3718
Island Oil Co., M. Bonner (24-ac) 3	8600	3668
Lacy Pet. Co., T. D. Anderson (13.7-ac) 2	9200	3670
C. A. Lester & Duffield, L. Graves-Shell (80-ac) 2	12,000	3663
Magnolia Pet. Co., G. W. Tate (66.6-ac) 3	8500	3446
R. B. White (88-ac) 8	10,500	3520
Martin-Wood Oil Co., E. L. Walker (1-ac) 1-A	8000	3596
Peckham Oil Co., T. Wells (40-ac) 4	9600	3726
Peckham (was A. A. Trammell), Hamilton-Humble (60-ac) 1	2000	3686
J. D. Reynolds & Dorfman, L. B. Miller-Humble (104.4-ac) 2	1500	3768
Rio Oil Corp., L. Graves (106-ac) 5	13,000	3601
Salome-Cooper Drl. Co., O'Byrne-Humble (301-ac) 4	5000	3703
Shell Pet. Corp., J. Moore (350-ac) 18	10,000	3568
G. W. Richey (61-ac) 10	13,000	3620
T. B. Stinchcomb (94-ac) 6	12,000	3508
Eddie Showers & W. A. Moncrief, M. O. Sheppard (21-ac) 2	12,000	3569
Simms Oil Co.-Frank Buttram, Nicholson (800-ac) 12	4500	3680
Sinclair Prairie Oil Co., Mary Lawson (46¾-ac) 9	11,500	3535
Stanolind O&G Co.-Simms Oil Co., Fonville (100-ac) 7	6500	3563
J. C. Persons (146.7-ac) 13	12,000	3566
Sun Oil Co.-Texas Seaboard Oil Co., J. M. Haynes (202-ac) 13	11,000	3621
The Texas Co., T. W. Lee (210-ac) 6	9000	3563
Tidal Oil Co., Arch Davis (130-ac) 11	15,000	3585
Yount-Lee Oil Co., V. Calvin (62-ac) 5	11,000	3585
Pat Hopkins (100-ac) 7	10,500	3504
VAN FIELD—		
Pure Oil Co., R. L. Wells (51½-ac) 14	8400	2927
Ella York (109-ac) 9	80	2929

Wildcat Drilling Report

(Wells shut down not included)

ANDERSON COUNTY—Jack W. Frazier Service Drl. & Royalties Corp. et al's H. L. Hudson (198-ac) 1, M. Rionda sur, Pecan chalk 2915-87 ft, dr 3775 ft. W. H. "Bill" Roeser et al's M. A. Davey 1, P. G. Adams sur, dk.

BOWIE COUNTY—Roy E. Anderson et al's A. Y. Breckenridge 1, M. Dykes sur, elev 352 ft, top Nacatoch sand 775 ft, top Saratoga chalk 1180 ft, Pecan chalk 1362-1805 ft, trace oil 2120-2133 ft, top Blossom sand 2114 ft, dr 2155 ft. J. M. Burnham-Pat Marr et al's F. O. Weiss (949-ac) 1, J. Dean sur, elev 388 ft, anhydrite 2945-3030 ft, reaming to make drill stem test of oil sand 3717-23 ft. W. S. Langford et al's W. W. Whybark (100-ac) 1, J. H. Dyer sur, sd 2075 ft. Lee Timberlake et al's J. M. Tidwell (22-ac) 1, L. M. Rice sur, elev 290 ft, sd 3000 ft.

CASS COUNTY—Lapan-Lovejoy et al's S. A. Orr (320-ac) 1, G. W. Morris sur, dk.

CHEROKEE COUNTY—Barclay-Taite & Deason's A. T. O.'Neal (131-ac) 1, J. M. Procella sur, dk. Bridges-Chandler et al's Berryman (300-ac) 1, H. Kimble-Dill sur, sd 1000 ft. W. N. Hamilton et al's Dr. P. E. Jones 1, J. D. Hamilton sur, lcn. Stanolind O&G Co.-Marr Drl Co.'s E. W. Green (100-ac) 1, A. B. Kelker sur, dr 2910 ft. Pure Oil Co.'s W. P. Nicholson (70-ac) 1, R. Stewart sur, lcn. Wm.

A. Stone et al's Mrs. J. I. Perkins (200-ac) 1, Thos. Stanford sur, sd 3120 ft. Wilson-Stubbs Oil Corp.'s M. F. Ragsdale (53-ac) 1, J. P. Wolfin sur, sd 3130 ft.

DELTA COUNTY—C. M. Joiner Pet. Corp et al's J. A. Blackwell 1, H. Dunnetella sur, elev 468 ft, Woodbine sand 1935-1950 ft, top Georgetown lime 2030 ft, top Comanchean 2913 ft, sd for fuel 3200 ft. J. O. Wheeler-Neuville & Yarbro's Ablovich 1, E. Chick sur, elev 507 ft, Austin chalk 1885-1895 ft, sd 3815 ft.

ELLIS COUNTY—Armstrong Bros. et al's Cook 1, S. Frederick sur, sd 460 ft. Carl Brooks et al's Anderson 1, E. C. Branch sur, dr shale 915 ft. Paris Oil Co.'s O. S. Bain (60-ac) 1, R. M. Williamson sur, Austin chalk 480-560 ft, dr chalk 655 ft.

FRANKLIN COUNTY—Franco Oil Co., (J. F. Mills-L. S. Harper & A. P. McGee's) L. S. Harper (118-ac) 1, W. N. Dawson sur, elev 356 ft, top Pecan chalk 1320 ft, set liner to test Woodbine sand 3304 ft.

FREESTONE COUNTY — Clyde Creighton & W. A. Holley (80-ac) 1, A. B. & M. sur, abst. 51, sd for fuel 1865 ft.

HENDERSON COUNTY—B. L. Green et al (was J. M. Roger's) M. H. Gossett (103-ac) 1, L. D. Stover sur, abst. 87, elev 341 ft, top Taylor 1450 ft, top Austin chalk 2347 ft, sd for cas on cap rock 3147 ft. Dr. J. F. Kennon et al's Rowe-Baker 1, J. T. Childress sur, sp and sd. H. H. Myers et al's M. E. Olson (80-ac) 1, Geo. Wilson sur, elev 512 ft, sd 2470 ft. Clint W. Murchison-Dudley S. Golding et al's S. G. Benton 1, E. G. Reynolds sur, cem 10-in cas 200 ft top Pecan 2740 ft, dr 3215 ft.

HILL COUNTY—T. J. Spikes et al's M. H. Davis (55-ac) 1, J. R. Alexander sur, dk Austin chalk 727-1030 ft, claim show gas 1160-64 ft, sd 1319 ft.

HOPKINS COUNTY—Columbia O&G Co.'s McLeon (70-ac) 1, (east) D. Holbrook sur, rig. Harmony Oil Co. (J. F. Roark's) J. L. Taylor (88-ac) 1, John Polk sur, sd 540 ft.

HUNT COUNTY — W. B. Chandler-B. P. Williamson & Wm. C. McGlothlin's Mrs. A. Walker (2½-ac) 1, J. B. Bowerman sur, elev 541 ft, top Nacatoch 990 ft, Austin chalk 1790-2190 ft, top Woodbine sand 2853 ft, top red beds 2996 ft, sd 3167 ft.

KAUFMAN COUNTY — Stanley Darrill-Witherspoon et al's S. Pannill (649-ac) 1, A. Cherino sur, claim show oil in sand 2481-85 ft. Geo. H. Anderson & Maurice Grubb's W. W. Moody (308-ac) 1, D. Hider sur, dk.

LEON COUNTY—John P. Sheffler & Allday's W. R. Thompson (197-ac) 1, N. M. Allen sur, sp. Leon Co. Oil Co. (Claude Kavanaugh's) John Morris (200-ac) 1-A, A. F. McWhorter sur, sd 2539 ft. Penn Oil Co.-Shell Pet Corp's Wm. Phillips (160-ac) 1, E. A. Swayze sur, rig.

LIMESTONE COUNTY—C. M. Joiner Pet. Corp. & Miller Drl. Co.'s W. Stephenson (54-ac) 1, Geo. Gentry sur, dr shale 2765 ft.

MORRIS COUNTY — Buchanan-Burkhalter et al's Staggers (65-ac) 1, Forbes & Nelson sur, elev 370 ft, hard Pecan chalk 2526-3020 ft, Austin chalk 3483-3506 ft, co to deepen, td 3554 ft. C. M. Joiner Pet. Corp.-Harris Drl. Co.'s C. D. Brown 1, Wm. M. Coffey sur, dk.

RAINS COUNTY — Fred Harris-Claude Dally-Eckholm et al's M. A. Markowitz (106-ac) 1, Chas. Despaler sur, lcn.

RUSK COUNTY—T. E. Castle et al's R. H. Gary (50-ac) 1, J. Latham sur, elev 469 ft, top Pecan chalk 2678 ft, top Austin chalk 3520 ft, top Georgetown 3672 ft, sd 3675 ft. G. A. Hathaway et al (was Laster & Miller's) Gray 1, Jas. McClain sur, elev 315 ft, Pecan chalk 2180-2537 ft, top Austin chalk 2980 ft, td 3640 ft. John Keegans et al's R. L. Needham 1, J. H. Chambers sur, dr 870 ft. R. H. Lemmon & A. F. Richardson's Luke Motley-H. Wood (498-ac) 1, J. I. Sanches sur, lcn. Wells & Lassiter (was G. H. Vaughn et al's) L. T. Barton 1, sd 3377 ft.

SMITH COUNTY—McRobie et al's C. P. Hamilton (259½-ac) 1, J. Rector sur, dk. Mundt & Mount's Murray (65-ac) 1, Marshall University sur, rig.

UPSHUR COUNTY—H. H. McMurphy & H. M. Harrell's E. A. Cobb (50-ac) 1, John Lout sur, dr 2640 ft. J. P. Evans et al's W. E. Bell (63-ac) 1, lcn. Scott & Ashland's H. Doughfrate (128-ac) 1, M. P. del Torres sur, elev 366 ft, Pecan chalk 2600-3024 ft, top Blossom 3385 ft, dr 3430 ft. B. L. Watson et al's D. J. Smith 1, J. R. Davis sur, sd 1865 ft. J. K. Wadley-J. P. Evans & C. Lyons' J. R. Covin (50-ac) 1, John Lout sur, dk.

VAN ZANDT COUNTY—Daisy O&G Co.'s Mrs. C. A. Browning (100-ac) 1, J. P. Tackett-Bell sur, Pecan chalk 2109-2230 ft, top Austin chalk 3160 ft, sd 3287 ft. B. E. Gamble et al's I. D. Walker (1-ac) 1, J. Walling sur, lcn. C. M. Powell et al's W. E. Price (3¾-ac) 1, J. Walling sur, lcn. A. C. Roan et al's W. E. Price (7-ac) 1, J. Walling sur, sd 600 ft.

WOOD COUNTY—DeGenther & F. H. Zeigen et al's M. L. McClain (66-ac) 1, Sam Brooks sur, elev 455 ft, Pecan chalk 2553-2740 ft, sd 3342 ft. Hudson-Shelton & Talko Pet. Corp.'s C. S. Ross (86-ac) 1, F. L. Smith sur, elev 359 ft, top Pecan chalk 2892 ft, fsh cas in shale 3840 ft. W. B. Saulsbury et al's T. H. Peterson (320-ac) 1, W. B. McNutt sur, abst. 418 ,dk. Wood County O&G Co.'s Guy Davis 1, John R. Clute sur, dr chalk 2590 ft.

East Texas Border Counties

Wildcat Drilling Report

(Wells shut down not included)

HARRISON COUNTY — Ryan Cons. Pet. Corp., Furrh 1, F. O'Neal sur, dr 2680 ft. Great Eastern Oil Co., W. L. Rudd 1, Wm. Steele sur, lcn.

MARION COUNTY — Baunauch Dev. Co., Miller 1, H. Fulgram sur, dr 4340 ft. Starling & Preston, Henderson 1, R. Bennington sur, rig. M. E. Nash et al, Henderson 1, G. L. Bledsoe sur, (320 ac.) arr res, td 108 ft.

SHELBY COUNTY — Ridgeway & Smith, Polley 1, Domingo Gonzales sur, sd 2605 ft. Wray & Dunbar, Hayden 1, D. F. T. Yordt sur, arr deepen, td 2130 ft. K. H. Francis, Jno. Mims 1, Mary Smith sur, no report.

Permits for Texas Wells

New Operations

ARCHER COUNTY—White, Duncan, Holt & Tetiford, Wichita Falls, S. Webb, 40, 10, Blk. 1, I&GN sur, 450 ft from n and 1050 ft from e line; 11, 300 ft w of No. 10; 9, 150 ft from n and 1050 ft from e line. Texas Plains Oil Co., Wichita Falls, Lemons, 87, 1, Sec. 3, A. Nunley sur, 1200 ft from w and 150 ft from s line; W. H. Terrill, 120, C9, W. L. Herring sur, 300 ft w of No. 7. Pois & Schulz, Wichita Falls, R. J. Andrews, 30, 1, 2437 TE&L sur, 450 ft from n and 175 ft from e line. C. B. Long et al, Wichita Falls, T. J. Moss, 100, 1, Blk. 1, HT&B sur, 200 ft from n and 150 ft from w line. Panhandle Refg. Co., Wichita Falls, J. H. Turbeville, 600, A1, Blk. 17, JCSL sur, nw corner. C. C. Williams, Jean, L. A. Snider, 100, 1, L. Saunders sur, 450 ft from w and 750 ft from s line.

BEXAR COUNTY—F. E. Kistler, San Antonio, E. E. Pirie, 49, 1, No. 7 M. Gotari sur, 1550 ft from n and 350 ft from w line.

CALLAHAN COUNTY—Kleiner Bros., Cisco, J. M. Isenhour, 80, B5, 2273 TE&L sur, 267 ft from e and 1050 ft from s line. Ferguson & Hobbs, Abilene, J. T. Casbury, 40, 1, S 79, Bayland Asy. sur, 150 ft from s and e lines. Jno. Sharp, Eliasville, Lobbin, 40, 1, 2995 TE&L sur, 150 ft from s and e lines. Drew Beams, Okmulgee, Okla., I. N. Jackson, 280, D6, S 21, E. T. Ry. sur, 890 ft from w and 660 ft from s line. Matson Drilling Co., Baird, O. E. Radford, 240, 10, S 20, D&D Asy. sur, 300 ft w of No. 1. Snebold & Hayek Oil Co., Fort Worth, E. L. Finley, 102, 2, S 65, Bayland Asy. sur, 1210 ft from n and 965 ft from e line. Matson Drilling Co., Baird, O. E. Radford, 240, 5, S 20, D&D Asy sur, 300 ft n of No. 2.

CALDWELL COUNTY—Bob Rose Oil Co., San Antonio, Walker, 46, 1B, S. Seale sur, 320 ft from w and 150 ft from s line.

CHEROKEE COUNTY—Pure Oil Co., Fort Worth, H. B. Nicholson, 72, 1, R. Stewart sur, 799 ft from e and 250 ft from s line. Marr Drilling Co., Tyler, E. W. Green, 100, 1, A. D. Kelker sur, 1450 ft from w and 1264 ft from s line. Saranac Oil Co., Tyler, P. E. Jones, 132, 1, J. D. Hamilton sur, 2247 ft from n and 1557 ft from e line.

CLAY COUNTY—W. H. Metzner, Wichita Falls, T. C. Thornberry, 44, 1, F. Longardio sur, 150 ft from s and w lines of Blk. 6.

COLEMAN COUNTY—C. J. Gibson, Los Angeles, Calif., W. J. Stevens, 57, 1, No. 57 CCSL sur, 520 ft from n and 880 ft from e line. Preston & Hodges, Brownwood, J. E. Stevens, 80, 1, Blk. 83, J. Faxall sur, 150 ft from n and w lines.

CROCKETT COUNTY — Trans-Texas Oil Co., Inc., Midland, Shannon, 40, 1, S 35, B 1, GC&SF sur, 330 ft from n and w lines of Sec.

DUVAL COUNTY—Thomas & Tarver, San Antonio, Bishop, 160, 7, Sec. 135 sur, 1666 ft from w and 300 ft from s line. Hamill & Hamill, Bay City, C. W. Hahl, 80, 1, n½ se¼ Sec. 42 sur, 330 ft from s and w lines. San Diego Oil Corp., San Antonio, E. Riley, 40, 3, nw¼ nw¼ Sec. 46 sur, 490 ft from e and 330 ft from n line; 4, 340 ft w of No. 3; L. Bennett, 40, 3, se¼ sw¼ Sec. 44 sur, 330 ft from n and w lines.

ELLIS COUNTY—B. C. Armstrong, Grandview, J. M. Cook, 127, 1, W. K. Hindman sur, 626 ft from n and 440 ft from w line; J. L. Wynn, 65, 1, E. Melton sur, 300 ft from s and w lines.

FORT BEND COUNTY—J. F. Belt, Houston, L. Kneitz, 90, 1, Sec. 43, H&TC sur, 690 ft from nw and 350 ft from sw li of sec.

FISHER COUNTY—Texas Co., Fort Worth, D. W. Stephens, 320, B3, S 79, H&TC Blk. 1, 250 ft from s and e lines of w½.

GREGG COUNTY—Harry Shulman, Longview, J. Davis, 1, 1, M. Van Winkle sur, 79 ft from n and 127 ft from w line. J. O. Whittington, Longview, Bumpas Est., 31, 4, W. H. Castleberry sur, 411 ft e of No. 3. J. E. Davant, Tyler, R. H. Rowland, 8, 2, M. Van Winkle sur, 150 ft from n and e lines. Whittle-Kavanaugh Corp., Houston, J. B. Watson, 15, 4, J. S. Caruthers sur, 750 ft from n and 170 ft from w line. Galvez Oil Corp., Tulsa, Okla., Mrs. M. O. Sheppard, 364, 3, G. A. Thomason sur, 185 ft from s and 220 ft from e line; G. C. Dunn, Dallas, T. H. P. Duncan, 20, 2, G. F. Penn sur, 200 ft from n and 330 ft from w line. Rhoads Drilling Co., Fort Worth, Tract 5, 5, F. Johnson sur, 952 ft w of Atlantic-Moore No. 18; 4, 450 ft nw of Atlantic-Moore No. 7; Tract 7, 2, P. McAnalley sur, s offset to Stanolind-McGeorge No. 2; 3, A. Cormack sur, 394 ft w of Sinclair-Prairie No. 6; 4, 391 ft w of Sinclair-Prairie No. 13; 5, 384 ft w of Sinclair-Prairie No. 12; 6, 396 ft w of Sinclair-Prairie No. 11; 7, 910 ft w of Sinclair-Prairie No. 14. Champlin & Bass, Inc., Tyler, J. B. Watson, 23, 4, J. S. Caruthers sur, 330

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls.—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; woc—waiting for cement to set; wosr—waiting on standard rig.

ft from n and 183 ft from e line. Columbia Oil & Gas Co., Dallas, G. A. Castleberry, 14, 2, D. Sanchez sur, 75 ft from n and 150 ft from w line. Dearing & McBride, Dallas, J. M. Dickson, 4, 2, M. Van Winkle sur, 200 ft from n and 180 ft from e line. Zion Oil Co., Tyler, Sartain, 10, 1, 330 ft from e and 215 ft from s line. Canadian Prod. Co., Longview, S. Hilburn, 40, 5, Hoy & Norris sur, 330 ft n of center of s line. Pelican Natural Gas Co., Shreveport, La., Spear-Laird, 92, 6, A. Norris sur, 224 ft from n and 330 ft from e line. Trapshooter Reilly Oil & Royalty Co., San Antonio, E. Mitchell, 5, 5, J. S. Caruthers sur, 330 ft from n and 140 ft from w line. Rancho Oil Co., Fort Worth, M. J. Fenn, 7½, 1A, D. Ferguson sur, 150 ft from e and 85 ft from s line. Pennsylvania Oil & Refg. Co., Dallas, T. D. Harris, 20, 2, Ruddle & Castleberry sur, 330 ft from s and w lines. Atlantic Oil Prod. Co., Dallas, Moore, 458, 27, Johnson sur, 1650 ft from n and 330 ft from e line; S. C. Fishburn, B, 80, 6, Johnson sur, 330 ft from s and e lines; 7, 330 ft from s and w lines. Arkansas Fuel Oil Co., Shreveport, La., Hughey-Ross, 220, 11, Jno. Moffitt sur, 485 ft s of No. 9; 12, 485 ft s of No. 11. Stanolind Oil & Gas Co., Fort Worth, J. J. Flewellen, C, 200, 6, M. Mann sur, 6060 ft from e and 425 ft from s line. Gulf Prod. Co., Houston, A. A. King, 55, 5, Jno. Moffitt sur, 330 ft from n and e lines; A. Nichols, 52, 4, D. Dainwood sur, 860 ft from n and 225 ft from w line; S. B. Hall, 50, 3, D. Dainwood sur, 330 ft from n and 964 ft from e line. Humble Oil & Refg. Co., Houston, J. M. Adams, 66, 2, Jno. Ruddle sur, 330 ft from n and 990 ft from w line. Magnolia Pet. Co., Dallas, Stinchcomb, 111, 6, W. H. Hart sur, 965 ft from w and 330 ft from s line; H. Key, 59, 5, D. Moore sur, 330 ft from n and 1574 ft from w line. Yount-Lee Oil Co., Beaumont, I. Denson, A, 61, 5, D. Sanchez sur, 1080 ft from w and 262 ft from n line; 6, 330 ft from s and w lines; I. Denson, B, 21, 3, D. Sanchez sur, 330 ft from s and e lines; J. C. McKinley, C, 58, 5, G. W. Hooper sur, 330 ft from s and e lines; 6, 685 ft w of No. 5; S. G. Smith, C, 56, 5, W. H. Castleberry sur, 350 ft w of No. 6; 6, 775 ft w of No. 1; A. Lee, 67, 4, Wm. Robinson sur, 330 ft from n and w lines; F. K. Lathrop, C, 114, 6, Wm. Robinson sur, ne cor. Shell Pet. Corp., Dallas, M. J. Register, 50, 3, J. D. Dainwood sur, 825 ft n of No. 2; W. W. Elder, 196, 14, M. Van Winkle sur, 310, ft from n and 250 ft from e line; H. T. Neal, 41, 5, M. Van Winkle sur, 500 ft e of No. 1. Sun Oil Co., Dallas, T. G. Pressley, 49, 2, M. Alexander sur, 660 ft s of No. 1.

GRAY COUNTY—Kewanee Oil & Gas Co., Tulsa, Okla., Morse, F, 80, 1, S 3, B 26, H&GN sur, 330 ft from w and 990 ft from s li n½ nw¼.

GUADALUPE COUNTY—Keen & Russell, Staples, Z. J. Lowman, 60, 1, Geo. Allen sur, 350 ft from n and 300 ft from e line. A. W. Wormser, Seguin, F. Hempel, 20, 1, G. W. Williams sur, se corner.

HARDIN COUNTY—Rio Bravo Oil Co., Houston, Fee, 128, J88A, D. F. S. Jorditt sur, 200 ft nw of No. J84A; J89A, 350 ft nw of No. J84A. Chas. Paggi, Beaumont, J. L. Hooks 200, 1, Wm. Slade sur, 120 ft from n and 360 ft from w line.

JACK COUNTY—R. J. Brown, Henrietta, S. J. Christian, 100, 6, E. Smith sur, 735 ft from n and 150 ft from w line.

JEFFERSON COUNTY—Jack Schultz, Ft. Worth, M. Todd, 718, 2, Wm. Carr sur, 2486 ft from n and 160 ft from w line.

JIM WELLS COUNTY—Campbell & Parker, Alice, N. A. Hoffman, 160, 1, T. Morena sur, 600 ft from e and 1980 ft from s line.

JOHNSON COUNTY — B. C. Armstrong, Grandview, W. H. Odom, 40, 1, T. Wells sur, 600 ft from n and e lines; O. L. Wilkinson, 115, 1, D. N. Carriger sur, 400 ft from n and e lines.

LIBERTY COUNTY — Fondren-Sowden, Houston, Hooks-Carr, 6, 1, J. Devore sur, 50 ft from s and 200 ft from e line.

LOVING COUNTY—Lockhart & Co., Pecos, Hubbard, 2, S 83, B 33, H&TC sur, 1650 ft from ne and 330 ft from se line of sec. McKague & Goldman, San Angelo, Regan-McElvain, 10, 1, S 84, B 1, W&NW sur, center; J. G. Allen, 40, 1, S 90, B 1, W&NW sur, 330 ft from n and w lines. Columbia Oil & Gas Co., Dallas, J. J. Wheat, 40, 2, S 85, B 1, W&NW sur, 330 ft from s and e lines.

McLENNAN COUNTY—S. E. Colgin, Dallas, Williams, 802, 1, Sec. 4, Rge. 5, T. Vega sur, 1525 ft from w and 1000 ft from s line.

McMULLEN COUNTY—V. G. Schimmel et al, San Antonio, Two Rivers, 2, Sec. 59, Two Rivers sur, 3050 ft from w and 330 ft from s line of sec.

MONTGOMERY COUNTY—C. C. Steinberger, Houston, Mrs. F. Hooper, 22, 1, J. W. Watson sur, 345 ft from n and 694 ft from e line.

NAVARRO COUNTY—Quad Corp., Corsicana, V. Humphrey, 10, 4, Jas. Smith sur, 330 ft from n and w lines.

PECOS COUNTY — Culbertson Bros. Co., Fort Worth, H. Monroe, 520, 13B, S 39, B 194, GC&SF sur, 850 ft from n and 2017 ft from w line of sec.

RUSK COUNTY—Lewis Prod. Co., Dallas, T. Bean, 43, 5, M. Cogswell sur, 815 ft from n and 359 ft from e line. Dave Donoghue, Rec., Fort Worth, Futch-Cooper, 62, 3, English & Elliott sur, 330 ft from e and 345 ft from s line. McClanahan & Venable Oil Co., Tyler, J. A. Birdwell, 150, 11, M. J. Pru sur, 36 ft from n and 157 ft from e line; J. W. Flanagan, 33, 4, M. J. Pru sur, 37 ft from s and 157 ft from w line. Hunt Prod. Co., Tyler, C. Young, 126, 9, M. J. Pru sur, 330 ft from n and 1015 ft from w line. Amended location, S. Hale, 91, 3, Jno. Darley sur, 194 ft from e and 330 ft from s line. C. P. Oil Co., Henderson, Giles Bros., 30, 5, M. J. Pru sur, 150 ft from n and 190 ft from e line. McMurrey Bros., Henderson, A. D. Blackwell, 42, 4, M. J. Pru sur, 240 ft n of center of s line. Moss & Urschel, Dallas, H. L. Griffin, 20, 3, J. Ximinez sur, 794 ft w of No. 2. Dave Donoghue, Rec., Fort Worth, J. Minchew, 20, 3, H. B. Dance sur, 248 ft from n and 330 ft from w line. Trapshooter Reilly Oil & Royalty Co., Dallas, M. L. Thompson, 10, 2, M. J. Pru sur, 250 ft from n and 330 ft from e line. Louisiana Oil & Refg. Co., Shreveport, La., H. Kersh, 79, 1, J. McAllister sur, 330 ft from n and e lines. Gant, Garvin & Wegener, Ardmore, Okla., Moore, 70, 4, M. V. Pena sur, 842 ft from w and 330 ft from s line. Hunt Prod. Co., Tyler, D. M. Bradford, D, 226, 5, J. Ximinez sur, 660 ft s of No. 2. Gant, Garvin & Wegener, Ardmore, Okla, Moore, 134, 5, M. V. Pena sur, 660 ft s of No. 3. Moss & Urschell, Dallas, A. J. Deason, 15, 5, Pru & Ximinez sur, 201 ft from n and 160 ft from e line. American Liberty Oil Co., Dallas, Strickland, A, 80, 2, M. V. Pena sur, 330 ft from s and w lines; I. L. Kinney, 336, 12, M. V. Pena sur, 330 ft from n and e lines. G. B. Ray, Tyler, L. J. Pinkston, 50, 4, M. J. Pru sur, 990 ft from e and 330 ft from s line; 5, 330 ft from s and w lines; F. B. Wilson, 50, 5, M. J. Pru sur, 330 ft from s and e lines. Belrice Oil Co., Dallas, C. Young, 40, 2, M. J. Pru sur, 330 ft from s and e lines. L. H. Harris, Overton, Fee, 5, 1, H. B. Dance sur, 169 ft from n and 330 ft from w line. Gulf Prod. Co., Houston, M. R. Terrell, 60, 4, E. G. Sevier sur, 275 ft from w and 330 ft from s line; C. E. Christian, 99, 7, W. R. Cooke sur, 330 ft from w and 1048 ft from s line; W. G. Sexton, 165, 5, M. McCabe sur, 330 ft s of center of n line. Mid-Kansas Oil & Gas Co., Shreveport, La., E. E. Moores, 201, 13, J. B. Cadena sur, 330 ft from w and 1552 ft from s line; W. T. Grissom, 842, 33, W. J. Roan sur, 2180 ft from e and 330 ft from s line; 34, 670 ft w of No. 33. Humble Oil & Refg. Co., Houston, L. D. Crim, 564, 60, E. G. Sevier sur, 435 ft from n and 990 ft from e line; S. S. Laird, 346, 17, J. Lewis sur, 330 ft from s and 360 ft from e line; W. D. Peterson, 97, 2, J. Lewis sur, 1250 ft from w and 454 ft from n line; W. L. Price, 446, 23, Melton & White sur, 875 ft e of No. 9; R. E. L. Silvey, A, 240, 11, T. J. Martin sur, 1330 ft from w and 330 ft from s line; S. Dennis, 73, 4, A. Melton sur, 614 ft from n and 330 ft from w line; J. R. Box, 125, 8, T. J. Martin sur, 1200 ft from n and 1050 ft from e line. Shell Pet. Corp., Dallas, D. Wills, 85, 2, W. P. Chisum sur, 330 ft s of center of n line; Mayfield, 200, 7, Jas. Jordan sur,330 ft from n and e lines. Tidal Oil Co., Kilgore, L. J. Pinkston, 135, 9, F. Cordova sur, 330 ft from n and e lines; J. M. Shaw, 85, 6, E. Collard sur, 330 ft from s and e lines; J. Bean, 85, 6, M. Van Winkle sur, 330 ft from n and 425 ft from e line. Texas Co., Shreveport, La., W. W. Henry, 229, 6, W. J. Roan sur, 375 ft from n and 1898 ft from e line; 5, 750 ft se of No. 2. Stanolind Oil & Gas Co., Fort Worth, M. Schuyler, B, 72, 5, J. B. Cadena sur, 149 ft from w and 151 ft from s line; W. H. Siler, 983, 19, T. M. White sur, 955 ft from n and 330 ft from w line. Sun Oil Co., Dallas, J. R. Beall, 180, 10, W. P. Chisum sur, 445 ft from w and 890 ft from s line.

SMITH COUNTY—C. K. West, Breckenridge, L. S. Sartain, 21, 2, Jas. Jordan sur, 330 ft from w and 223 ft from s line. Pitzer & West, Breckenridge, L. S. Sartain, 20, 2, Jas. Jordan sur, 220 ft from n and 330 ft from e line. Arcadia Refg. Co., Tyler, J. R. Green, 57, 6A, Jas. Jordan sur, 330 ft from s and e lines.

SHACKLEFORD COUNTY—L. B. Tannehill, Albany, W. P. Newell, 409, 31, S 11, B 11, T&P sur, 300 ft w of No. 29. Chas. Welch, Albany, W. H. Stephens, 146, 13, Sec. 6, Blind Asy. sur, 500 ft from n and 700 ft from w line. Union Oil & Mining Co., Tulsa, Okla., L. H. Hill, 40, 1, S 38, Blind Asy. sur, 790 ft from n and 750 ft from e line. M. B. Petrie, Rock Island, Ill., J. G. Terry, 40, 1, S 46, K. A. L. sur, 150 ft from n and 750 ft from w line. Geo. Callihan, Albany, E. A. Jeter, 40, 1, S 14, B 11, T&P sur, 150 ft from n and w lines. S. C. Brewer, Breckenridge, E. A. Jeter, 40, 2, S 14, B 11, T&P sur, 300 ft s of No. 1.

THROCKMORTON COUNTY—A. A. Michaels, Olney, A. L. Halbert, 100, 1, 1193 TE&L sur, 400 ft from s and 780 ft from w line.

UPSHUR COUNTY—E. L. Smith Oil Co., Mexia, E. A. Watts, 100, 1, C. H. Cooper sur, 330 ft from s and w lines. J. Z. Werby, Longview, J. Williams, 5, 1, McKinney-Williams sur, 218 ft from e and 203 ft from s line. Feazel-Davenport Corp., Dallas, W. M. Phillips, 71, 7, H. H. Edwards sur, 330 ft from s and w lines. Lester & Duffield, Fort Worth, L. Graves, 80, 3, M. Irwin sur, 330 ft from s and 1130 ft from e line. Rio Oil Corp., Fort Worth, Mrs. L. Graves, 106, 7, M. Irwin sur, 330 ft from w and 336 ft from s line. J. F. Murphy, Tyler, E. Moore, 31, 2, D. Ferguson sur, 330 ft from s and w lines. Stanolind Oil & Gas Co., Fort Worth, J. J. Flewellen, C, 200, 7, M. Mann sur, 9030 ft from e and 415 ft from s line; 8, 1320 ft from w and 415 ft from s line.

VAN ZANDT COUNTY—Gardner Bros. & Ling, Dallas, J. Leonard, 53, 1, P. Mason sur, 200 ft from s and w lines.

WICHITA COUNTY—J. L. Bridges, Coastal Springs, Miss., F. P. Warren, 50, 8, J. Hensley sur, 450 ft from n and 200 ft from e line. W. O. Kimmell, Wichita Falls, M. P. Cropper, 50, 42, C. Winters sur, 525 ft from w and 150 ft from s line. S. H. Walton, Wichita Falls, Gulf, 70, 2, S 23, H&GN sur, 150 ft from n and e lines.

WARD COUNTY—Stanolind Oil & Gas Co., Fort Worth, M. Weiss, 100, 2, S 4, B 34, H&TC sur, 330 ft from sw and 1810 ft from se line of sec; 3, 1091 ft from sw and 1809 ft from se line of sec.

WHARTON COUNTY — Hollitex Oil Co., Houston, B. M. Floyd, 87, C2, S. F. Austin sur, 250 ft from n and 1050 ft from e line.

WILLIAMSON COUNTY — McNeill-Matthews, Inc., Taylor, J. Littleton, 202, 1, H. Goode sur, 150 ft from n and 600 ft from w line.

WILBARGER COUNTY—E. C. Harvey et al, Wichita Falls, Bowers, 40, 1, S 100, B 14, H&TC sur, 300 ft from n and 150 ft from e line.

YOUNG COUNTY—R. P. Dorian, Wichita Falls, Belknap, 53, 11, 23, TE&L sur, se corner. L. Mollenkopf et al, Olney, Arkansas, 60, 1, S 54, TE&L sur, 1080 ft from s and 150 ft from e line. S. D. Glover, Vernon, C. W. Johnson, 40, 12, E. W. Sargent sur, 150 ft from n and 750 ft from w line. Holbrook & Woods, Wichita Falls, F. M. Cullers, 80, 11, S 19, YCSL sur, 600 ft w of No. 10. J. G. Wootan, Graham, R. E. Sehkel, 40, 1, 1917 TE&L sur, 150 ft from n and e lines of s½.

ZAPATA COUNTY—Texas Co., Houston, Jennings, 12, C. Blanco sur, 500 ft n of No. 11. Allied Oil & Gas Co., Laredo, E. Gutierrez, 532, 38, Sh. 4, Comitas sur, 2447 ft from e and 829 ft from s line. H. Muckleroy, Jr., Laredo, A. Trevino, 40, 1, Sec. 411, Blk. 10, 150 ft from s and w lines.

NORTH and WEST TEXAS

H. H. KING, *Staff Representative*

Completions
WEST CENTRAL TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
SHACKELFORD COUNTY—		
Alfred & Baker, Morris-Buie 1....	15	1595
C. L. Carroll et al, Moberly 1....	*	1280
Dickey et al, S. Webb 10.....	*	536
S. Webb 11	*	820
Hart & Gist, Clark 7.....	15	654
Kiser & Fleming, Clark 4.....	15	689

TEXAS PANHANDLE

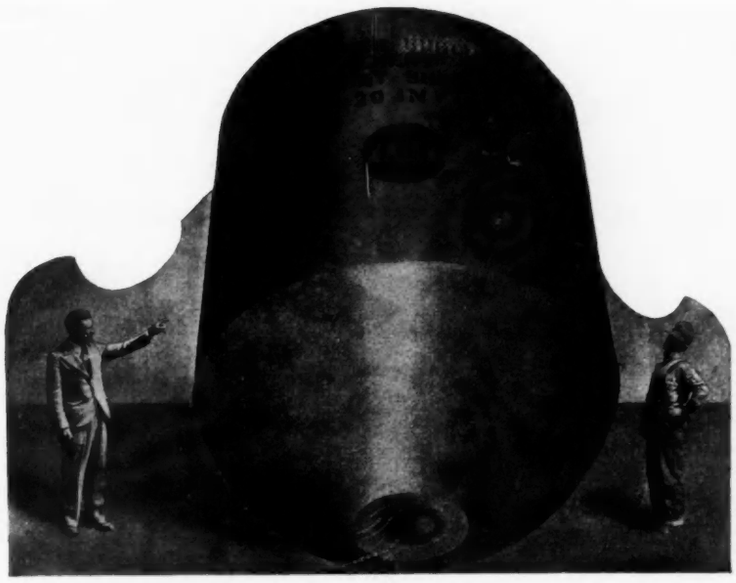
GRAY COUNTY—		
Bell O&G Co., S. H. Webb 1, Tract No. 3	165	2603
Clyde Pulse et al, A. J. Culler-Shell 1	300	3264
The Texas Co., Cook-Faulkner 10-A	†	2582
Tharp et al, J. C. Short 1.....	*	3043
HUTCHINSON COUNTY—		
Huber Pet. Co., Weatherly 1-A..¶3½-5		3127

WEST TEXAS

GAINES COUNTY—		
McElreath-Suggett et al, J. A. Sparks 1	*	4845
LOVING COUNTY—		
H. W. Martin & Fairlawn Synd., I. V. Brookfield 1	*	4910
SCURRY COUNTY—		
W. S. Guthrie et al, Snyder Nat'l Bank 1	10	2500

NORTH TEXAS

ARCHER COUNTY—		
R. J. Brown et al, M. M. Plemons 6	75	716
Houston et al, P. Browning 8....	*	460
L. T. Burns et al, L. F. Wilson 14..	*	2242
Clyde W. Carey et al, L. F. Wilson 1	*	2235
King Royalty Co., Abercrombie 1-B..	5	1195
C. B. Long et al, T. J. Moss 1.....	*	1804
J. M. Seaberry et al, Archer County Fee 1	*	1076
Texas Plains Oil Co., Terrell 5-C..	140	668
Terrell 6-C	150	665
Terrell 8-C	175	665
Terrell 9-C	15	666
W. C. Young et al, T. V. Carr 1..	10	1403
JACK COUNTY—		
Jones & Nail, M. M. Plemons 1...	*	751
THROCKMORTON COUNTY—		
J. A. Bearman et al, Lee Tuton 6..	5	766
WICHITA COUNTY—		
C. W. Chapman et al, Parker 1....	4	170
Parker 2	*	198
Geo. W. Cooper et al, Waggoner Bros. 23	100	1335
H. B. Hill et al, W. W. Overby 3..	50	1774
Rathke Oil Co., H. H. Haggard-Chilson 1	*	773
C. T. Richards et al, Frank Cohen 1	*	905
WILBARGER COUNTY—		
The Texas Co., W. T. Waggoner 403-A	200	1105
YOUNG COUNTY—		
Atlantic & Pacific Oil Co., Lowe 1, Sec. 2244	*	750
Culbertson Co., Belknap 1, Sec. 2250	*	637
Holbrock & Woods, Dean 11, Sec. 19	*	556
Irion Mt. Oil Co., Jordon 1 , Sec. 1903 .....Junked		355
Madden & Hunt, J. H. Crain 1, Sec. 169	*	1035
Morris & Dunn, Jeffreys 1, Sec. 54..	*	903
J. W. Sparks et al, Hamilton 1, Sec. 3401	*	971
Sid Swink et al, Keith 5, Sec. 267..	25	717
The Texas Co., Killion 1.....	*	4012
J. G. Wooten et al, Senkel 1, Sec. 1917	*	550



5⅜"

"BIG INCH"

If You Use a Baker Cement Float Shoe on "Big Inch" You Can Disconnect Cement Head and Break Down Immediately After Cement Run Is Completed.

Safety

No matter what the size or how great the weight of your string of "Big Inch", there is a Baker Cement Float Shoe, or a Baker Cement Float Collar and a Baker Cement Guide Shoe, if you prefer, that will handle it Safely.

Big Inch Sizes

Baker Cement Floating Equipment is available both for screw pipe and slip joint casing in the following sizes:

O. D. Size	Nominal Size	A. P. I. Size
16"	15¼"	16"
18	18	..
..	..	18⅝
20	20	..
21½	..	21½
24½	..	24½

Important Advantages

There are a number of advantages in using the Baker Cement Float Shoe when you are cementing "big inch", aside from the increased safety which is an inherent part of the use of Baker Cement Floating Equipment.

Immediately after the cement run is completed, you may take off the cement head and start breaking down, the back-pressure valve in the Baker Cement Float Shoe taking care of any pressures which may be developed.

It takes time to put the clamps on and land the pipe, cut it off, weld in the circulation line, set the rotary table back in its place, and get ready for the next run.

Even if the time saved through the use of the Baker Cement Float Shoe is only one day, you are just that much further along, and *time saved is money saved.*

Circulating Areas

The large circulating areas make ample provision for any quantities of cement which may be used in cementing off "big inch". The inlet passage into the Bakelite valve chamber which is firmly imbedded in the solid mass of concrete is 4-1/32 in. diameter, area 12.76 sq. in. The passage around the 4½ in. Bakelite ball has an area of 14.78 sq. in. The outlet passage has a diameter of 5⅜ in., area 22.69 sq. in.

The new rubber valve seat will insure a tight seal at the slightest pressure and is the last word in cementing efficiency, as the tight immediate closure insures the best possible condition for a successful cement job.

Easily Drilled Up

You will be surprised with the ease with which this comparatively large mass of concrete and Bakelite can be drilled up and disposed of, leaving the hole free and clean for further drilling operations.

There is nothing like getting started right from the top of the hole, even with your "big inch".

Consider the safety to your "big inch" particularly the time that you save in being able to take off the cement head and start breaking down. The time and labor saved will in most cases exceed the entire cost of Baker Cement Equipment.

BAKER OIL TOOLS, Inc.

HUNTINGTON PARK, CALIFORNIA

COALINGA HOUSTON TULSA NEW YORK

SOUTH TEXAS

Refugio, Caldwell, Bastrop and Guadalupe Threaten New Productive Spots; All Government Wells Offsets Finished.

EARL POST, *Staff Representative, San Antonio*

Seek Government Wells Extension North and East

San Antonio, Texas.—Interest in the North Government Wells field of Duval County centers around wildcats, which, if completed as producers, will materially extend the field to the north and east. Operations within the field have shown a slight decline with practically all present necessary offsets drilled. Drilling contracts by San Diego Oil Corporation likely will bring about an increase.

The wildcatting interest is mainly in Sections 42 and 101, adjoining the proven area on the north and northeast. Hammell and Smith's C. W. Hahl 1, 330 feet from the south and west lines of the north half of the southeast quarter of Section 42, is drilling at 2160 feet, due to get the sand within a few hours. It is said to have had a slight show in the Cole sand. Due north of this well one fourth of a mile, Highland Oil Comapny's A. Lundvall 1 has spudded.

Byrd et al's P. T. Wright 2, 330 feet out of the southwest quarter of Section 101, just south of Wright 1, topped the sand 2276 feet and set casing. It is well over a quarter of a mile northeast of the Magnolia Petroleum Company's B. White 1, Section 4, outpost oil producer. Byrd and Associates' Wright 1, showed some oil in the Government Wells sand, but was lost due to difficulties in completion. It was then plugged back several feet to the gas sand immediately overlying the oil series and completed. The new well, as a result will throw an important light on the field.

Russ et al's Riley 1, located 330 feet from the north and west lines of SW NW Section 46, is making hole below 2000 feet. It is the southernmost test in the field, the southern limits being defined by the same operators' C. W. Hahl 1, which made salt water. The Hahl well is a quarter mile due south of the Tiley Prospect.

Only three wells were completed in the North field during the week. They are Magnolia Petroleum Company's G. Wendt 6, Section 44, producing 500 barrels from 2304 feet; San Diego Oil Corporation's Hellar 1, Section 44, plugged back to 2320 feet in the first sand and producing slightly more than 80 barrels; Seacord, Putnam et al's Johnson 1, Section 44, producing 960 barrels from 2313 feet. The latter well was the original producer in the field, being completed in the Cole sand as a gasser. It has been deepened to the regular horizon.

In the South Government Wells field, Humble Oil & Refining Company's Paul White 6, Section 58, is flowing 262 barrels from 2317 feet.

Goliad County Heaving Shale Balks Second Test

San Antonio, Texas.—Benedum & Trees and Plymouth Oil Company recorded their second failure on the Parks ranch in Goliad County. The new well, located 500 feet south of the first test and in the BS&F Survey No. 8, was drilled to a total depth of 5465 feet.

Heaving shale has been an obstacle operators have been trying to overcome in this area to develop an apparent oil and gas structure. The above companies did a great deal of engineering work on these two wells, but were unable to successfully control the formation.

Seems Another Oil Field Discovered in Refugio

San Antonio, Texas.—Another field for Refugio County was apparently in the making late in the week as Gulf Production Company was moving casing to set in J. O'Conner 2. The well topped a sand at 5703 feet drilled in four feet and showed 800 pounds pressure in 12 minutes on a drill stem test.

The well is located in the southeast corner of the 32,404-acre ranch, and in a block of 20,000 acres held by Gulf Production Company. The well is in No. 40, CEPT and M. survey, four miles east of the O'Conner 1, a dry hole recently drilled by this company in Goliad County.

It is west of Humble Oil & Refining Company's O'Conner production in Refugio County and the Keeran and McFadden fields in Victoria County.

Humble Oil & Refining Company, likewise, opened the way to another deep horizon in the district by excellent showings in Peter Rydolph 1, Kemper survey, Victoria County. This well had a sand at 5185-95 feet, which developed 1250 pounds pressure in three minutes on a drill stem test. During the test, the valve stuck and the well ran wild for about three hours, during which time it began spraying oil. When the test tool was removed the hole was cored five feet deeper to a total depth of 5200 feet where another drill stem test was run. At this level, the well registered 1300 pounds pressure in three minutes and showed a nice spray of oil. About a pint of oil was in the test tool when it was removed from the hole. Following this another five-foot core was taken which showed shale and shell, indicating the bottom of the sand. Drilled on to 5232-43 feet, the well tested salty mud and gas. At last reports, it was at 5350 feet, drilling.

The Rydolph well is located on a block of 4500 acres which was taken over from Van Petty of San Antonio several months ago. Two geophysical surveys of the acreage have been made, one was taken by Petty and the second after it was taken over by Humble Oil & Refining Company. It was the first acreage taken in that section of Victoria County for oil and gas development, Petty having taken a lease before Lion Oil Refining Corporation entered the area and leased the McFadden ranch. The Lion organization discovered the prolific Victoria district.

Three Counties Threaten Balcones Crevice Producers

San Antonio, Texas.—The Luling district along the Balcones Fault Zone again jumped into the spotlight with some more wells showing for probable producers in crevices. Caldwell, Bastrop and Guadalupe County shared one apiece.

The most interesting of the three likely is Hickmon, Hill et al's Dickerson 1, 150 feet north of the center of the south line of the tract in the John D. Rains Survey. This well is at the extreme north end of the Salt Flat field and originally was started by John Story. It has been shut down for many weeks and drilling resumed a few days ago. The well is showing a three to five-foot break at 2172 feet, according to reports, where it made several attempts to blow out. Casing is to be set immediately.

Farther north on the Bastrop-Caldwell County line, several miles northeast of the Dale field, R. R. Ogden et al's C. L. Riddle 1, showed for probable production from 2169-2223 feet, the formation being listed as just above the serpentine. On a drill stem test, it showed a high gas pressure and when the drill stem was taken from the hole, it showed about 250 feet of oil and mud. This well is a mile

or so from the Carroll producer, completed from the serpentine a few days ago. The exact location is: starting at the south corner of the 94.5-acre tract, thence northwest along the southwest line 1950 feet, thence at right angles 300 feet in the Joshua Gray Survey.

The third strike of the week was in the Sal-Mar area of Guadalupe County. Brogan & Wormser's Hempel 1 topped the chalk at 2004 feet and drilled to 2043 feet, where it is expected to make a producer. The 6⅝-inch casing has been run to 2000 feet and cement set. The location is 160 feet from the west line and 1750 feet from the south line of the G. W. Williams Survey.

In the same area, Marshall Eskridge, Trustee, bailed Berhing 1, also in the G. W. Williams Survey, at 1995-2023 feet, where it showed dry. The well has been deepened to 2050 feet and will be tested again. To date, there is only one producer in the pool, opened several months ago by the Sal-Mar Oil Corporation.

Second Tuleta Producer Too Small to Be Interesting

San Antonio, Texas.—Southern Drilling Company (Coquat and Hahn) completed Tuleta field's, Bee County, second oil producer during the past week. It was the J. P. Harris 1, 330 feet from the north and east lines of Block 15, Section 13, about 1000 feet southwest of the discovery well.

It topped the sand at 4082 feet and drilled to 4098 feet where it made a flow of 16 barrels in 12 hours with 400 pounds pressure through choke. Tubing was deepened and the flow increased to nearly 100 barrels.

This well is a disappointment for the area, as a large well was expected.

Interest now turns to CR&M and John O'Neill's J. P. Harris 1, Section 2, just east of the discovery well, which is now in process of completion after being plugged back from 4109 feet. The sand level is now logged at 4077-4101 feet. The lower portion showed salt water, necessitating the plugging back.

Starr County Producers Get Local Fuel Contracts

San Antonio, Texas.—An outlet for oil from the Rio Grande City, Roma and Los Olmos fields, Starr County, again creates an incentive for drilling. Deals have been made with irrigation companies, ice plants and several factories in the Rio Grande Valley to take a large part of the oil now in storage and to continue to buy a portion of the crude produced. These contracts relieve a poor situation in the district for some time, which had practically tied up operation in the proven areas.

South Texas Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BEE COUNTY—		
Southern Drlg. Co. (Coquat & Hahn) J. P. Harris 1, blk 15, Sec. 13, Tuleta	60	4098
BEXAR COUNTY—		
Gatlin Oil Co., I. A. Beck 14 (13), Eckert	20	731
DUVAL COUNTY—		
Humble O&R Co., P. White 6, Sec. 58, 9/32 choke	262	2317
Magnolia Pet. Co., G. Wendt 6, Sec. 44	500	2304
San Diego Oil Corp., Hellar 1, Sec. 44, (wo)	80	2320
Seacord, Putnam et al, Johnson 1, Sec. 44 (dd)	960	2313
GOLIAD COUNTY—		
Benedum & Trees & Plymouth Oil Co., Parks 2 BS&F sur No. 8	*	5465
KERR COUNTY—		
Val Verde O&G Co., J. D. Witt 1, Sec. 1923	*	118
MEDINA COUNTY—		
James E. Greenless, J. P. Nixon 1, M. Derungs sur	*	1230
STARR COUNTY—		
Mitchell & Bosley, Kelsey Bass 1, Sec. 8, Por. 75-76-77	10	320
Rio O&G Co., Kelsey Bass 4, Sec. 6, Por. 75-76-77	25	452
Kelsey Bass 5, Sec. 6	35	468

Wildcat Drilling Report

(Wells shut down not included)

ATASCOSA COUNTY—E. A. Parkford & F. H. Etheridge, J. Dickson 1, lot A, sur 132, McCampbell-Berry survey, fsh for slip 802 ft.

BASTROP COUNTY — Jess Emmanuels, (fee unknown) 1, near McDade, dk. R. R. Ogden, C. L. Riddle 1, Gray & Leach sur, top chalk 2005 ft, td 2043 ft, showing oil, set cas, woc. Marts & Beavens, Sloop 1, near Elgin, move on machy. Properties Trading Company, Frietag 1, P. Conley sur, dr below 1500 ft.

BEE COUNTY—Gulf Coast Oil Co., R. A. McKinney 4, R. C. Ballard sur, n Pettus, set surf. cas, re-dr. Howeth & O'Neill, King Ranch 1, 7 mi ne Beeville, dr 4425 ft. C. F. Nichols, J. Harris 2, blk 7, sec 2, Tuleta, dk; Kimball 1, Stephen Winship sur, sd 3580 ft. Nichols & Bruner 1, Hedelfels 1, John Ryan sur, 3½ mi se Beeville, ru. John O'Neill & C. R. & M. Dr. Co., J. P. Harris 1, sec 2, Ruleta, prep to dr in, snd 4077-4101 ft. J. S. Smith, Weiss 1, blk 1, J. M. Uranga sur, sp.

BEXAR COUNTY—Robert C. Hill, F. Schell 1, sec 234, Perretaux sur, about 15 mi n S. A., gas show 436-76 ft, now dr 482 ft. R. V. Hill, M. & A. Boeck 1, J. F. Shepherd sur, No. 314, 5 mi se Converse, ru. Linda Oil Co., Watson 1, Cruise Ladin sur. No. 46, 10 mi sw S. A., dr 1100 ft. M. E. Trussell et al, L. B. Carruthers Sr. 1, Sam McCollough sur, sw pt county, 1¼ mi w Von Ormy, top snd 644 ft, set 6-in cas, took core of part of horizon, show oil and gas, prep to dr in. C. J. Webster O&G Co., S. A. Sub Irrigated Farms 1, lot 2, blk 4, near Medina, dr 1200 ft.

CALDWELL COUNTY—Bobrose O&R Co., Walker 2-B, Solomon Seals sur, Dunlap, dk. Hickman, Hill et al, Dickerson 1, John D. Rains sur, Salt Flat, three to five-foot crevice 2172 ft, tried to blow out, setting cas.

COLORADO COUNTY—C. B. Bunte et al, Rudolph Matuska 1, J. Hennecke sur, to re-dr 300 ft.

DIMMIT COUNTY — Motes-Campbell Co., Denton 1, 12 mi sw Carrizo Springs, tract 33-34, blk 60, Denton Colony, dr 500 ft.

DUVAL COUNTY—J. E. Anderson et al, Welder-Wood 1, sec 73, sd 30 ft. R. B. Byrd et al, P. T. Wright 2, sec 101, top snd 2276 ft, set cas, woc. Capps & Smith, Sutherland 1, sur 186, dk. H. H. Coffield, H. Wendt 1, sur 43, dk. DeLange & Frates 1, sur 213, 12 mi e Gov't Wells, sp. Highland Oil Co., A. Lundvall 1, sec 42, sp. Edwin M. Jones, J. F. Williams, top snd 2295, td 2332 ft, cored deeper, to dst. W. P. Luse et al, E. Riley 1, sec 46, dr 2000 ft. Mag. Pet. Co., Johnson 1, sec 44, dr 1000 ft; G. Wendt 7, sec 44, sp. San Diego Oil Co., Hellar 1, sec 44, plug back from 2340 ft. Sarnosa Oil Co., Weil 2, Sarnosa, top snd 2380 ft, set cas. SRC & Magnolia, Duval County Ranch 8, sec 293, sp. Smith & Hammel, C. W. Hahl 1 (Pure lease), coring snd 2280 ft. Thomas & Tarver, Duval County Ranch Co. 2, sec 576, dk. Whisenant, Trenchard & French, C. W. Hahl 3, sec 44, Rosita townsite, sp.

FRIO COUNTY—Amerada Pet Co., Halff & Oppenheimer 1, W. F. Halsel sur, 12 mi sw Pearsall, sd 911 ft for fuel.

GOLIAD COUNTY—Rowan & Hope & Phillips Pet. Co., Irby 1, Maria de Jesus Ybarbo sur, sd 1050 ft, acct weather.

GONZALES COUNTY — Luling O&G Co., DuBose 1, R. F. Whitner sur, dr, no rept on depth.

GUADALUPE COUNTY—B. E. Brock et al, Ogletree 1, Robert Smith sur, td 1805, to re-dr. Brogan & Wormser, Hempel 1, Salmar area, prep to sp. Marshall Eskridge, Behring 1, G. W. Williams sur, td 2013 ft, bailed dry. Owen & Gunby, C. F. Appling 1, Samuel Highsmith sur, sp. H. A. Suttle, O. J. Halm 1, J. Kent sur, sp.

HIDALGO COUNTY—Palm City Pet. Corp., J. T. Lomax 1, San Roman sur, dr 1445 ft.

JIM HOGG COUNTY — Jack A. Tarver, Martinez 1, sur 623, dr 1100 ft.

JIM WELLS COUNTY—Catlett & O'Neill, H. D. Miller 2, J. M. Andrate sur, dr 3220 ft.

KARNES COUNTY—Edmiston et al, Cochran 1, dr 1625 ft.

KERR COUNTY—Eastland Oil Co., Jerr Love 1-B, sec 1594, dr 3010 ft.

KLEBERG COUNTY—H. Carter & L. Ellis, R. H. Simmons 1, sec 7, King sur No. 3, dr 3200 ft. Harrison et al, Dennett 1, lot 7, sec 38, sp.

LIVE OAK COUNTY—J. H. Durbin et al, J. Marbach 1, S. Mayes sur, sd for dk, 700 ft. Live Oak Pet Co., Jim Harper 1, J. Pointavent sur, dr 800 ft.

McMULLEN COUNTY—Jacob, Buzzini & Pickett, Jacob 6-A, sur No. 10, sp. Longhorn O. Co. & American Gas Co., Lark 1, EWB. Scrugham sur, top Calliham snd 805 ft, make dst. V. G. Schimmel, Two Rivers Ranch Co. 2, skid dk.

MILAM COUNTY—M. W. Eiser, Citizens National Bank 1, td 1842 ft, ream at 1725 ft.

NUECES COUNTY — Gulf Coast Oil Co., Frank Bliss 2, sec 406; Perkins & LeGasse 2, sec 26, fah 4852 ft; Dinn 1, dk. Houston Oil Co., Harrell 2-A, sec 28, dr 3800 ft; W. W. Walton 1, Rge 6, Sec. 9, ru. McCarthy, Rogers, Mix et al, blk 12, no rept.

STARR COUNTY—Jim Cloud, Sanches 1, sec 344, to sp. Dr. J. N. Goodwin, Kelsey Bass 1, sec 2, sec 86, dr 1410 ft gray, sandy shale. Flowers & Hoffman, Wood-Goodrich 1, blk 6, tract 5, por 81, dr 600 ft. Grass Roots Oil Co., Gonzales 2, sur 339, sp. Gulf Coast Oil Co., Doyno 2, blk. 4, share 77-A, por. 81, top snd 1459 ft, set 6⅝-in cas, woc. Hooks & Weaver, Kelsey Bass 13, sec 8, por 75-76-77, top snd 483 ft, completing Jeffries-Lanert Dr. Co., Starr County Cattle Co., blk 34, por 89, dr 350 ft. La Joya Oil Co., Hart 2, por 39, making loc. McFatter & Rutherford, Kelsey Bass 1, sec 6, por 75-76-77, top snd 464 ft, set cas. Smith & Porter, Lopez 1, share 65, por 80, dr 1515 ft. Stryalls Oil Corp., Caffarelli 1, share 19-A, por 80, dr 1200 ft.

VICTORIA COUNTY — Houston Oil Co., McFadden 1-A, IRR No. 20 sur, no rept. Humble O&R Co., Peter Rydolph 1, Kemper sur, snd 5185-95, test 1250 lbs. pressure 3 min, deepen to 5200, test 1300 lbs. pressure, spray little oil, sand 5232-43 ft, test little gas and salty mud, dr 5350 ft. Slick-Seeligson Corp., McFadden 2, pull liner, to deepen from 4496 ft. Texas Co., A. M. McFadden 3, J. M. Rine sur, 5832 ft, to deepen. Union Oil Co., Keeran 1, M. de Leon sur, test sw 5814-21 ft.

GULF COASTAL FIELDS

Conroe Has 21 Operations and No Restriction on Production Pending Hearing Postponed to September 16.

WM. V. GROSS, *Staff Representative, Houston, Texas*

Rabb Ridge Has Eleven Active Field Tests

Houston.—Among the salt dome fields of the Texas-Louisiana coastal region Rabb Ridge in Fort Bend County is second only to the Conroe field, Montgomery County, in volume of drilling activity carried on at present.

Gulf Production Company and Humble Oil & Refining Company, which jointly control a large proportion of the acreage there, are each operating five drilling rigs in the field, and The Texas Company is operating one. Average production of the area is now around 17,000 barrels daily.

A new producer was added recently when the Gulf-Humble well, Booth A-2, came in flowing 50 barrels 25 gravity oil per hour through a 5/16-inch choke from 5320 feet.

Black Bayou Field Given Southward Extension

Houston.—The Black Bayou salt dome field of Cameron Parish, southern Louisiona, was given an important southern extension recently when Brownie-Babette Oil Company overcame mechanical difficulties it had experienced in its deep test, R. A. Moore 1, and brought the well in as a flowing producer of 39 gravity oil. The well is not only the deepest producer in that field, but among the deepest of the whole salt dome region of Louisiana and Texas.

Bottom of the hole is in shale at 6642 feet, but production is from sand logged from 6619 to 6638 feet. Screen was set in that formation, and the well came in flowing high gravity pipe line oil at the rate of 400 barrels daily through a half-inch choke, pressure on the tubing through which the oil was flowing being 150 pounds and on the casing 450 pounds. Seven-inch casing had been cemented at 6540 feet. Shortly after the oil sand was encountered a job of fishing for drill stem had arisen and it had appeared for a while that the well would have to be abandoned, but the difficulty was successfully overcome.

This well, owned by an independent company of Orange, Texas, was a flank test considerably south of the nearest operations of Shell Petroleum Corporation, dominant owner of leases on and adjacent to the dome. Location of the extension well is 562 feet west and 50 feet south of NEC SE Section 18-12s-12w.

Prior to completion of this new well Black Bayou field had around 1000 barrels production daily. It is one of the most easterly of the salt dome fields of southern Louisiana. The new well is the eight productive test completed there, all others having been brought in by Shell Petroleum Corporation, which discovered the dome by seismograph in 1927, and which has carried on most of the exploration, its operations having included approximately a dozen unproductive tests in addition to the productive ones. The latter have included wells on the southeast and south sides of the dome producing from depths of approximately 900 feet, 4500 feet, and 5200 feet, and a 4700-foot producer on the north edge of the dome. First production was scored in the field in April, 1929, when the Shell interests completed Watkins 9 as a 30-barrel well yielding 19 gravity oil from 981 feet.

Beaumont, Texas.—Coastwise crude oil shipments of Sun Oil Company from terminals at Sun and Sabine Pass on the Neches River near the Gulf Coast aggregated 1,462,573 barrels during August.

Four Completions Past Week in Conroe Area

Houston.—The active drilling campaign which is in progress in the Conroe district, Montgomery County, bore fruit during the past week in completion of two producing wells and abandonment of two unproductive tests, while several other wells had progressed almost to completion stage, including one which was being washed late September 9 in expectation of establishing oil flow following setting of screen.

Exclusive of the four wells which were completed, field operations in and immediately adjacent to the Conroe field late last week numbered 21, while there were four others in wildcat districts of Montgomery County.

The 21 operations at Conroe included 17 wells actually drilling, one rigging up, one derrick, and two wells shut down. Humble Oil & Refining Company, principal lease owner in the district, headed the list of operators with 10 drilling wells, and the only other large companies participating in development of the field were Houston Oil Company (and Heep Oil Corporation) drilling two tests, and The Texas Company drilling one. Each of the eight other operations is sponsored by a separate independent company or operator, as are the four Montgomery County tests on wildcat locations.

The two producing wells completed during the past week were both properties of Humble Oil & Refining Company. The newer of the completions is R. L. Cartwright 1, which came in late in the week, flowing 43 barrels per hour through a three fourth-inch choke from 5103 feet. South Texas Development Company 4 came in several days earlier, flowing 65 barrels 38 gravity pipe line oil per hour through a half-inch choke from 5193 feet. Alpha Petroleum Corporation's R. R. Dunn 1, M. W. Real survey, more than a mile southeast of the Conroe discovery well, was being washed late in the week after screen had been set in sand at 5233 feet. G. W. Strake, discoverer of the field, after having completed his first two tests in the area as producers, experienced a change of fortune in his third test, South Texas Development Company 3, which has been abandoned as a dry hole. It was drilled to 5993 feet and plugged back to 5060 feet. Location of the well was 247 feet east and 790 feet north of the southwest corner of Theodore Slade survey, in Block 148. The other abandonment of the week was Craft & Gieseke's Keystone Mills 1, located 300 feet each way out of the northeast corner of the A. S. James survey, about four miles southeasterly from nearest production. Drilling was suspended after 2019 feet was reached.

Production at Conroe has been averaging around 11,000 barrels daily lately, the wells having been allowed to produce without restraint since the recent withdrawal by the state railroad commission of its order limiting production there. The commission contemplates issuing a new order, however, immediately after holding a hearing at Austin September 16, under which output of field will be restricted.

Conroe Proration Hearing Is Postponed Two Days

Austin, Texas.—Postponement of the Conroe hearing to September 16, has been announce by the Texas Railroad Commission. The hearing was originally scheduled for September 14. It will be held in Austin, and will be concerned primarily with fixing allowable production in the field. Several applications for exceptions to the spacing rule now in force in the field will also be heard. These have been reset the third time, in order to permit the full commission to hear them.

Buckeye Well Controlled And Ready for Testing

Houston.—United North & South Development Company was making preparations late last week to attempt establishing flow of oil from its deep wildcat, Stoddard 1, in Buckeye townsite, J. C. Keller survey, Matagorda County, after having killed the well in order to equip it at the surface with new fittings. These well-head fittings were installed to replace those damaged nearly two weeks ago when the well blew out around the drill stem immediately following setting of screen.

Following the blowout the well ran wild for several days, but was finally brought under control by pumping heavy mud, treated with a special compound, down through the drill pipe, employing two large pumps, compounded, in the operation.

Having been equipped with the new fittings, the well was in readiness late last week to be washed and given opportunity to resume flowing under regular control.

If it fulfills expectations by proving productive, this deep wildcat will be distinguished as the deepest producer of the Texas-Louisiana coastal region. The bottom of the hole is at 7926, having been plugged back to that depth from 7951 feet, and production is from a large thickness of broken sand in the lowermost portion of the hole. Following the plugging-back operation a 120-foot length of four-inch screen was set on bottom, and when the well was washed immediately thereafter it blew out around the drill stem, as stated previously.

Original reports on the blowout credited the well with flowing 38.7 corrected gravity oil at an estimated rate of about 2500 barrels daily, together with perhaps 25,000,000 cubic feet of gas daily, and without any salt water. A large amount of oil accumulated on the ground around the well while it was out of control.

United North & South Development Company has a solid lease block of 10,000 acres around the well, and Stoddard 1 is its first test on the block. This company is controlled by Edgar B. Davis of Luling, Texas, and New York, discoverer of the Luling oil field. Headquarters of the company are in the Milam Building, San Antonio, in charge of W. B. Edmonson.

Two New Producing Wells Completed at Lake Barre

Houston.—Lake Barre field, Terrebonne Parish, which is proving to be one of the best of the many salt dome areas discovered during recent years in coastal Louisiana through geophysical explorations, has recently been provided with two additional productive wells, and crude oil output there is now around 10,000 barrels daily.

The two latest producers are wells of The Texas Company, as are all others in the field. State Lake Barre 16 came in flowing about 1750 barrels of 31 gravity pipe line oil daily through a half-inch choke at 3790 feet, and Louisiana Land & Exploration Company Lake Barre 3 flowed at about the same rate from 3808 feet.

Lake Barre is one of about 10 salt domes found by seismograph by Louisiana Land & Exploration Company and turned by that concern to The Texas Company for development.

Texas Gulf Coast Field Developments

Completions

BARBERS HILL—		
Rio Bravo Oil Co., Fisher 3, w flank abn in anhydrite	*	6018
Texas Gulf Prod. Co., Kirby H-10	1600	5107
CONROE—		
Humble, So. Tex. Dev. Co. 4, T. C. Howell sur, offsets Heep's Cartright 1	1500	5193
MONTGOMERY COUNTY—		
Craft & Gieseke, Keystone Mills 1, A. S. James sur	*	2019
RABB RIDGE—		
Gulf-Humble, Booth A-2, Samuel Kennedy sur	1200	5320

Wildcat Drilling Report

(Wells shut down not included)

AUSTIN COUNTY — Great Southern Drl. Co.'s F. Schovajsa 1, 3 mi s Bleiberville, S. F. Austin 4 Leagues, dr to 2850 ft and sd.

BRAZORIA COUNTY—W. D. Southerland et al's C. W. Chapman 1, Andrew Robinson sur, near Lochridge, dr 4830 ft sandy lime. Danciger O&R Co.'s Hunt 1, W. Coirson sur, Pledger district, dr 600 ft sand. Shell's Blakely-Winston 5, Danbury, H. T. & B. R. R. sur No. 14, dr 1725 ft shale. A. H. Parsons et al's J. D. Hughes 1, A. L. D. Lewis sur, Halls Bayou district, se part of county near Galveston line, made location. Tri-Fin Oil Co.'s Moers 1, F. Moore sur, dr 32 ft.

BRAZOS COUNTY — Dew, Dickerson & Wicklyne's Moseley 1, W. Mathis sur, dr 4030 ft water sand.

BURLESON COUNTY—Poor Boy Oil Co.'s Polansky 1, 6 mi w Lyons, M. B. Lawrence sur, dr 1385 ft shale. Shilo Oil Co.'s Bracey 1, J. Lastly sur, near Somerville, dr 1980 ft. Sanson O&G Co.'s Duckworth & Gilley 2, P. Singleton sur, near Clay, dr 2650 ft sandy shale.

COLORADO COUNTY—Bunte et al's Matuska 1, Jno. Hennecke sur, 8 mi ne Alleyton, rebldg dk, depth 290 ft.

FORT BEND COUNTY—Naylor & DeCosta's Naylor 1, 1½ mi n Thompson, Horatio Chrisman sur, dr 5700 ft sandy shale. North Star Pet. Co.'s Guyler 1, 3 mi nw Orchard, Andrew Roberts sur, sd 950 ft. Gulf's Moore 34, Orchard, dr 2200 ft. O'Hara et al's Mayes 1, N. F. Roberts sur, dr 250 ft sand.

GALVESTON COUNTY—Humble's Elias V. Rosenkranz 1, Greens Lake prospect, 4 mi sw Hitchcock, Sarah White sur, setting 13⅜-inch cas at 2020 ft. H. H. Stevenson's E. Lobitt 1, 3 mi sw Dickinson, J. F. Perry & E. M. Austin sur, sd 475 ft.

GRIMES COUNTY—W. J. Brightwell's Combs 1, Samuel Beauman sur, dr 500 ft gbo. Petroleum Southwestern Corp.'s Greer Bros 1, near Carlos, Pat. B. O'Connor sur, made location.

HARDIN COUNTY — W. R. Alexander et al's Southwestern Lbr. Co. 1, 3¼ mi ne Votaw, M. K. Sherman sur, dr 3400 ft shale. Gulf's Kirby 1, E. Ariola sur, ½ mi nw Republic No. 1 Fee, moving in rig. Republic Prod. Co.-Houston Oil Co.'s Ariola Fee 1, E. Ariola sur, will make additional drill stem tests, bottom of hole 4173 ft, previous tests showed salt water. Houston Oil Co.-Republic Prod. Co.'s Ariola Fee X-1, E. Ariola sur, dr 990 ft sand; Y-1 location; Z-1 dk. Joe E. Proctor et al's J. R. Bevil 1, Wm. W. Young sur, dr 2450 ft shale. Chas. Paggi's J. L. Hooks 1, 5 mi s Selsby, Thos Slade sur, nw cor of sur, ru.

HARRIS COUNTY — Bayou Prod. Corp.'s Dermoody 1, 1 mi w Fauna, Wm. Hedge sur, dr 3550 ft shale. Kohin et al's Burt & Griffith 1, w Humble, A. R. Bodman sur, lcn. Jno. Deering's Warren 1, Hockley, Theo. Snell sur, trying sdtr dr stem at 2411 ft. Jno. B. Turnbow's Laureman 1, Mykawa-Genoa dist., W. B. Bissonett sur, lcn. Crown Central Pet. Corp.'s Siadous 1-A, Mykawa, running wild after gas blew out, ruining well head connections, dk wrecked Sept. 7, and well still not under control; Minnetex 3 digging pits. Hamill-Smith's Ward 1, Mykawa, ru.

JASPER COUNTY—P. Michael's F. L. Eck 1, G. C. & S. F. sur No. 1, dr 500 ft gbo. Hext Drlg. Co.'s Flourney 1, 4 mi se Jasper, B. F. Jones sur, dr 4520 ft.

JEFFERSON COUNTY—Jack Schultz's O. M. Todd 2, 2000 ft s No. 1, Cheek dome prospect, sd 850 ft. Gulf's Burrell 6, Fannett, moving in rig. Coast O&G Co.'s J. O. B. Young 1, 3 mi ne Pt. Arthur, Jos. Grigsby sur, dr 1925 ft shale and gbo.

LIBERTY COUNTY—J. T. May's Dunman 1, J. C. Martin League, n cent part of county, spudded and sd. Leon Brisley Tr.'s J. M. Neal 1, E. Tanner sur, sd 1950 ft.

MATAGORDA COUNTY — Sheppards Mott Dev. Co.'s Hawkins 1, Sheppards Mott, dr 5460 ft sandy lime. Danciger O&R Co.'s Turner 1, M. Cummings sur, set surface cas at 30 ft. United North & South Dev. Co.'s Stoddard 1, Buckeye townsite, brought under control after running wild, due to blowout while removing dr stem subsequent to setting screen.

MONTGOMERY COUNTY — Alpha Pet. Corp.'s R. R. Dunn 1, M. W. Real sur, set cas at 5233 ft. Gieske & Craft's So. Tex. Dev. Co. 2, T. & N. O. sur, blk 5, lcn; Keystone Mills 1, A. S. James sur, abn 2019 ft. Gulf Coast Dr. & Prod. Co.'s So. Tex. Dev. Co. B-1, Theo. Slade sur, dr 5025 ft sand. Hooper Oil Corp.'s W. N. Hooper Jr. 1, I.-G. N. sur, A.649, set cas at 1400 ft. Houston Oil Co.'s C. L. Dobbins 1, Ransom House sur, dr 700 ft clay; Hooper 1 set cas 1185 ft. Humble O. & R. Co.'s R. L. Cartwright 1, Jno. Davis sur, dr sand at 5103 ft; No. 2 dr 1665 ft shale; C. L. Dobbins 1, Ransom House sur, plugged back to 5099 from 5113 ft; Pfaefflin 1, M. W. Real sur, dr 2508 ft shale; So. Tex. Dev. Co. 2, wo, ru to deepen from 5030; So. Tex. Dev. Co. 4, T. C. Howell sur, offset to Heep's Cartwright 1, completed; No. 5, dr 4562 ft; No. 6 dr 4734 ft; No. 7, dr 2825 ft; No. 8 set cas at 5150 ft; No. 9 dr 1070 ft shale; No. 10 dr 3370 ft shale. Lilley & Red Moon Oil Co.'s McDonald 1, J. Davis sur, sd 910 ft. Rowe & Flowers' Alexander 1, Alex McCown sur, sd 5096 ft. C. C. Steinberg's Hooper 1, J. W.

Watson sur, dr 850 ft shale. G. W. Strake's So. Tex. Dev. Co. 3, T. Slade sur, making fifth dr stem test at 5060 ft, having plugged back fr 5993 ft, four previous dr stem tests unsuccessful. The Texas Co.'s Moody 1, set cas at 1420 ft. Dutton & Hawkins 1, J. M. de la Garza sur, ru. McElroy Oil Corp.'s C. A. Damuth 1, T. J. Nichols sur, dr 4567 ft shale. Miller Prod. Co.'s Foster Lbr. Co. 1, M. B. Lawrence sur, dr 2560 ft shale. Peavyhouse Oil Co.'s Sealy 1, 5 mi w Conroe, Peaveyhouse sur, sd 3988 ft. R. H. Vise et al's L. S. Ross 1, dr 4290 ft sand.

NEWTON COUNTY—Sun Oil Co.'s Peavey-Moore 1, F. Stover sur No. 4, sw corner of county, dr 3995 ft shale.

POLK COUNTY—G. Allen Williams et al's Carlton-Davis 1, 8 mi e Corrigan, I.-G.N. sur No. 52, dr 445 ft.

SAN JACINTO COUNTY—Darby-Jones-McBee Drlg. Co.'s J. R. Bennet 1, nw Cold Springs, sd 1106 ft. Joe L. Pace's Foster Est 1, H. & T. C. sur No. 13, dr 400 ft shale.

TYLER COUNTY—Allied Pet. Co.'s Wilson 3, E. Cheny sur, abs. 798, trying to pull dr stem, depth 5146 ft. Republic-Houston Oil's Sterne Fee 1, Adolph Sterne sur, set cas at 510 ft.

WALLER COUNTY—Seven Wells Corp.'s Maxwell 1, Justo Liendo sur, dr 4482 ft shale.

Louisiana Gulf Coast Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BLACK BAYOU—		
Brownie-Babette Oil Co., R. A. Moore 1, s flank Black Bayou dome, 562 ft w and 50 ft s of ne c 18-12s-12w	400	6642
EDGERLY—		
Green Oil Co., Moore 10	25	2921
HACKBERRY—		
Moon Oil Co., Sanner 6	32	3306
Pop Oil Co., Ellender 1, abn in salt	*	2930
GUEYDAN—		
Pure Oil Co., Mulvey Irrig. Co. 1, 34-11s-1w	675	4004
JENNINGS—		
Reliable Oil Co., Rawson-Haber 3	50	1840
Phillips et al, Vallee 2	25	1850
LAKE BARRE—		
The Texas Co., State Lake Barre 16, nw cor 30-21s-20e	1750	3792
LLE-Lake Barre 3, 4015 ft s and 230 ft e of nw c 30-21s-20e	1800	3808
LOCKPORT—		
Magnolia Pet. Co., Bordages 9, wo, junked	*	6688

Wildcat Drilling Report

(Wells shut down not included)

ASCENSION PARISH—Rio Bravo Oil Co.'s Community 1, Darrow, sec 31-10s-2e, dr 3340 ft shale. Union Sulphur Co.'s United Lands 22, Sorrento, sec 15-10s-4e, dr 3354 ft rock.

CALCASIEU PARISH—Magnolia Pet. Co.'s B. T. Waite 2, Iowa, dr 6150 ft shale. Union Sulphur Co.'s Moss 3, Lockport, dr 5796 ft. I. R. Irvine's A. D. Minne 1, 20-9s-7w, sd 630 ft.

CAMERON PARISH—Union Sulphur Co.'s Pure Oil Co. 1, nw flank East Hackberry dome, fsh for dr bit at 7423 ft.

IBERVILLE PARISH — Shell Pet. Corp.'s Wilbert 6, White Castle, 9-11s-12e, dr 1200 ft. Standard's Myrtle Grove Wilbert 3, Choctaw, dr 500 ft gravel.

JEFFERSON DAVIS PARISH — Shell's Fontenot 2, Iowa, 7-9s-6w, dr 5000 ft in sand. Little City Oil Co.'s Jennings Norwood 1, 44-9s-6w, temp abn at 3820 ft.

LA FOURCHE PARISH—The Texas Co.'s LLE-Leesville 5, Leesville dome, 26-21s-22e, dr salt 4177 ft, top salt 4080 ft.

TERREBONNE PARISH—The Texas Co.'s Lake Barre 16, 30-21s-20e, completed; No. 17 dr 1071 ft rock; LLE-Lake Barre 3, 30-21s-20e, completed; No. 4 loc in 36-21s-19e; State Dog Lake 6, 31-31s-16e, ru.

VERMILION PARISH — Pure Oil Co.'s Mulvey Irrig. Co. 1, Gueydan, 34-11s-1w, completed.

VERNON PARISH—Minerals Div. of Llano Co.'s Llano del Rio 1, 2 mi sw Leesville, 34-2n-9w, dr 1420 ft shale.

LOUISIANA FIELDS

Zwolle Water Shortage Does Not Halt Drilling. More Wells Going on Air-Lift; Two Producers Completed.

Zwolle Drilling Progresses Despite Water Shortage

Shreveport, La.—Despite the fact that a shortage of water is being felt in some parts of the Zwolle field, developments there continued at an average during the week ending September 7, six new locations being made in that field, counting one rank wildcat well outside any part of the field, the latter being C. W. Smith and associates' Pattison 1, SE NW 33-10-11.

Loring Oil Company built derrick during the week on a new location, Bowman-Hicks 16, SW NW Section 16-7-12, which probably will be this company's contemplated 5000-foot test, unless it makes a flowing well in the marl-chalk horizon between 2100 and 2700 feet.

Southwest of production in the West Zwolle (Blue Lake) district, R. L. Gay, Trustee, discovering operator of the Zwolle field, made location and has derrick up for Bowman-Hicks 12, SW SW Section 14-7-14.

Hunt-Hodge Lumber Company made location for a rank wildcat in Jackson Parish, Fee 4, SW SW Section 19-15-3w, which probably will go to 3000 or 3200 feet. This company has large holdings of timber and cut-over land in that vicinity.

More Zwolle Wells Being Placed on Air Lift

Shreveport, La.—Air lift units for two wells on the Louisiana Long Leaf Lumber Company lease in Section 4-7-11, in the southeast part of the Zwolle east field, are being installed by Pelican Natural Gas Company. The wells on which the air lift units are being installed were among the earlier producers completed in that part of the field. Completed as flowing wells, they have since settled down to small pumpers.

Roberts & Sledge whose Sabine 2, SE SW SE Section 5-7-13, one mile west of production in the area southwest of the Zwolle townsite, ceased to flow after being completed flowing at the rate of 100 barrels of oil hourly, at 2465 feet in chalk, are arranging to blow this well with air.

There are already three other air lift units in use in the Zwolle field.

Deepen From Small Gas Show West of Sugar Creek

Shreveport, La. — United Gas Public Service Company and associates are arranging to deepen Warren Brown et al 1, Section 1-19-6w, Claiborne Parish, one mile west of production in the Sugar Creek gas field, where there are half a dozen gassers producing from the upper Trinity, carrying a high gasoline content. The present test showed 1,016,000 cubic feet of gas at total depth of 4460 feet in oolitic lime when tested. Rock pressure was 1400 pounds. The volume was particularly disappointing.

United Gas Public Service Company, Triangle Drilling Company and Standard Oil Company of Louisiana, are equal owners of production in this field and have approximately 8000 acres surrounding their wells. Unitization has been used in the development of the field.

Two Oil Wells and Four Failures at Zwolle

Shreveport, La.—Two oil producers and four dry holes were completed in the Zwolle field during the week ending September 7. J. A. Wilder's Gray 1, NE SW SW Section 3-7-13, was completed at 2370 feet flowing 780 barrels of oil daily. Zwolle marl was logged at 2052 feet where six-inch casing was cemented. This is in the "hot spot" of production southwest of the Zwolle townsite.

In the Zwolle east field, Skully and Beach's LaFitte 2, Section 13-7-11, was completed flowing 250 barrels of oil daily through two-inch tubing from 2486 feet in chalk.

One mile west of production in the area southwest of the Zwolle townsite Ray Murray and associates' Lefkovitz 1, Section 5-7-13, was dry and abandoned at 2503 feet in chalk. In the recently opened northeast offshoot of the east field Paul Miller's Lucius 1, Section 31-8-10, was abandoned as dry hole at 2750 feet.

Natchitoches Test Delayed By Drill Stem Lost in Hole

Shreveport, La. — While arranging to make a drill stem test of a formation from 3367 to 3375 feet, believed by operators to be an oil bearing sand, four fourbles of drill stem were lost during the past week in Texana Oil Company's Clarke-Morse 2, Section 23-5-6w, a wildcat in Natchitoches Parish. This well was abandoned about two years ago by McDaniels and associates at 2504 feet and was recently taken over by the present owners.

Dr. H. S. Gerson and associates who have had two strong gas shows around 500-600 feet in wildcats drilled in Nachitoches Parish, during the past week spudded Smith 3, Section 11-10-8w, near the two previous tests on the same lease. Ten-inch casing was cemented at 32 feet. These operators have a 12,000-acre block on which they plan to drill at least four tests.

F. J. Miller, formerly in the general office of Arkansas Natural Gas Corporation at Shreveport, has recently been made district geologist for the company covering Mississippi and Alabama with headquarters at Jackson, Mississippi.

North Louisiana Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
SABINE PARISH (Zwolle)—		
Paul Miller, Lucius 1, 31-8-10....	*	2750
Ray Murray et al, Lefkovitz 1, 5-7-13	*	2503
Pelican Nat. Gas Co., La. Long Leaf 15, 5-7-11	*	2720
Scully & Beach, La Fitte 2, 13-7-11..	250	2486
Texas Co., Maines 2, 5-7-11.....	*	2660
J. A. Wilder, Gray 1, 3-7-13.....	780	2370
UNION PARISH (Monroe)—		
Nemours Corp., Moore 1, 24-20-3e..	¶6	2195

New Operations

CADDO PARISH — Shreveport Oil Corp., Shreveport, Hicks et al 9, 32-21n-15w, 1150 ft n and 550 ft w ne cor ne nw.

CAMERON PARISH—Pure Oil Co., Houston, Texas, Yount-Lee Oil 11, 12-13s-8w, 1320 ft n and 1500 ft w from se cor.

DE SOTO PARISH—E. J. Stansbury, Mansfield, La., Nabors 1, 32-13n-11w, 560 ft s and 100 ft e nw cor se sw.

JACKSON PARISH—Southern Advance Bag & Paper Co. (Hodge-Hunt Lbr. Co.), Hodge, La., Southern Advance Bag & Paper Co. 1, 19-15n-3w, 800 ft n and 278 ft e sw cor nw of Sec.

MOREHOUSE PARISH — N. C. Feazel, Monroe, La., Davenport 1, 28-21n-6e, 600 ft e and 500 ft n of sw cor.

PLAQUEMINES PARISH—Freeport Sulphur Co., Freeport, Texas, Cockrell-Moran 4, —21s-26e, Approx. 6820 ft n and 2680 ft w from ne cor; Cockrell-Moran 3, —20s-26e, 8975 ft n and 650 ft w ne cor; Lake Grande Escaille 1002, —20s-26e, 2310 ft w and 12,023 ft n of se cor of sec.

SABINE PARISH—W. F. Lacy, Shreveport, Neely 4, 14-7n-11w, 125 ft n and 120 ft w se cor. Magnolia Pet. Co., Shreveport, O. E. Williams 2, 6-7n-10w, 240 ft s and 261 ft e nw cor ne. Roshko & Labarre, New Orleans, L. Maines 1, 35-8n-11w, 450 ft e and 150 ft n sw cor se ne. E. M. Self, Roberline, La., Henderson 1, 31-8n-10w, 445 ft s and 175 ft e nw cor se sw. Jean Oil Co., Shreveport, A. S. Byrd 4, 1-7n-11w, 160 ft n and 1200 ft w se cor ne sw. Lowery-Green et al, Longview, Texas, Nutlon 1, 3-7n-13w, 330 ft s and e nw cor sw ne. J. H. Warlick et al, Shreveport, Brown Lbr. Co. 1, 31-8n-10w, 519 ft s and 400 ft w ne cor nw ne. The Coming Oil Co., Shreveport, Williams 1, 31-8n-10w, 130 ft n and 50 ft e sw cor se sw. E. F. Neely, Shreveport, Ponder 1, 9-7n-11w, 600 ft w and 150 ft n of se cor se se. H. H. Alvord, Jr., Shreveport, Steinhorst 2, 3-7n-13w, 150 ft w from ne cor se nw. Pelican Natural Gas Co., Shreveport, 4L-Lbr. Co. 16, 10-7n-11w, 86 ft s and 544 ft w from ne cor nw ne.

UNION PARISH—Nemours Corp., Shreveport, Moore 1, 24-20n-3e, 660 ft e and 660 ft s nw cor.

VERNON PARISH—B. E. Jones, Leesville, La., Willis 1, 32-3n-9w, 350 ft n and 400 ft e sw cor se se.

VERMILLION PARISH — Pure Oil Co., Houston, Texas, Alliance Trust Co. 3, 34-11s-1w, 675 ft s and 1460 ft e from nw cor.

Wildcat Drilling Report

(Wells shut down not included)

BIENVILLE PARISH—Black Lake Dev. Co., Frank Holston 1, se se 17-18-16, sr td 2926 ft.

CADDO PARISH—Jno. W. Moffitt, Cynosure 1, 36-18-15, lcn. Louanna O&G Co., Cushman 2, 33-19-16, rig.

CLAIBORNE PARISH—United Gas Pub. Serv. Co. et al, Warren Brown et al 1, 1-19-6w, 9-inch 4204 ft, top oolitic lime 4432 ft, tested 1,016,000 cu. ft. gas, 1400 r. p., arr deepen, td 4460 ft. Robertson & Aurand, Smith 1, 8-21-7w, dk.

CONCORDIA PARISH—M. M. Stoker et al, Gillespie 1, 56-8-10, sp sd 1755 ft to move in heavier rig.

DE SOTO PARISH — De Soto Dev. Co., Nickie 1, 7-13-12, rig. Walters & Nicholson, Jim Guy 1, 3-11-13, sr 2700 ft to set 6-inch 2745 ft, td 2764 ft. Honeycutt O&G Co., Porter 1, 26-12-13, dk. Jack Whitson, Sanders 1, sw sw 19-11-13, sp dr 360 ft. E. T. Oakes, Johnson 1, 30-13-15, core 3956 ft.

GRANT PARISH—Robichaux et al, Bradford 1, 16-9-1e, rig.

JACKSON PARISH—Hodge-Hunt Lbr. Co., Fee 4, sw sw 19-15-3w, dk.

MOREHOUSE PARISH—Feazel & Kalil, Davenport 1, 28-21-6e, dr 1100 ft.

NATCHITOCHES PARISH—Saline Bayou Dev. Co., Bodcaw Lbr. Co. 1, 9-12-15, dr 1582 ft. Natchtoches Pet. Co., Edenborn 1, 4-11-16, dr shale and gumbo 900 ft. Cook et al, Hankins 1, 67-10-7w, lcn. Dr. H. S. Gerson et al, Smith 3, 11-10-8w, sp 10-inch 32 ft, dr 100 ft. Texana Oil Co., Clark-Morse 2, 23-5-6w, lost 4 fourbles ds while arr ds test from 3367-75 ft sand, said to show oil, td 3375 ft.

OUACHITA COUNTY—Monroe Oil & Roy. Co., Thieler 1, 34-18-2e, arr res, td 1950 ft.

RED RIVER PARISH—C. F. Davis, Peterson 1, sw nw 12-14-11, dk. Petroleum Ind., Inc., Madden 1, sw ne 21-14-10, wo, td 2704 ft.

SABINE PARISH—J. M. Bridges, Moore 1, ne nw 5-9-12, dr 2900 ft. J. R. Bunn, Sabine 1, 9-7-13, dr 1650 ft. R. L. Gay, Tr., Long-Bell A-1, nw nw 10-8-13, arr res, td 6150 ft. King, Tr., Davis 1, 29-7-11, lcn; Webb 1, 31-8-11, dr 2598 ft. State Prod. Co., Davis B-1, 17-7-10, lcn abn; Lites 1, 28-8-11, dk. H. C. Maulding, Moores 1, se ne 16-7-13, dr 1400 ft. LeGrand & Jackson (formerly G. M. LeGrand), McGough 1, 2-8-10, tested est 6 mil ft with Edwards testing tool, arr deepen, td 2020 ft. Triangle Drilling Co. et al, La. Long Leaf 1, se se 11-6-11, sd 4013 ft. J. H. Askew, Lyons 1, 31-8-10, sp 10-inch 42 ft. Magnolia Pet. Co., Williams 1, 6-8-10, wosr, 2490 ft; Williams 2, nw ne 6-7-10, rig. C. M. F. Oil Co., Musser & Aaron 1, 32-9-13, sp 10-inch 40 ft. Gibson & Johnson, Frost-Johnson 1, 19-9-13, 12½ cas 25 ft, sd; Frost-Johnson 2, 15-9-13, rig. P. L. Miller, Chadick 1, 32-8-10, sd 2528 ft. Supreme Oil Co., Pruitt 1, 30-8-11, cemtd 6-inch cas 2260 ft. Kilgore et al, Pate 1, 32-8-11, cemtd 6⅝ cas 2225 ft, top Z. marl. Helis et al, Sabine 1, 28-8-11, 10-inch 41 ft. Texas Co., Stille 1, 33-8-11, dk. Byers Oil Co., Bishop 1, 16-7-13, sp 10-inch 41 ft. C. W. Smith et al, Pattison 1, se nw 33-10-11, dk. W. M. Ungerman, Cross 1, sw se 25-8-11, dk. Cloud & Bolin, Bowman-Hicks 1, ne ne 26-9-13, dk.

TENSAS PARISH — H. B. Schumacher, Curry 1, 39-11-12e, sd 3645 ft.

VERNON PARISH—Llano Coop. Colony, Fee 1, 34-2n-9w, dr sandy shale 1660 ft.

WEBSTER PARISH—Pearce et al, Ambrose 1, 22-20-10, dr bldrs and gumbo 1642 ft.

WINN PARISH—P. V. T. Oil Co., Southern Advance Paper Co. 1, nw sw 28-13-5, sr td 805 ft.

ARKANSAS FIELDS

Miller County Test Goes Deeper for No Benefit

El Dorado, Ark.—Fitzwater and associates have deepened E. L. Beck 1, SW SE Section 35-15-26, Miller County, southwest Arkansas, two feet to total depth of 2935 feet, in an attempt to increase its oil yield, but without avail. The well is standing with approximately 1500 feet of fluid in the hole of which about 500 feet is oil. at 2933 feet the amount of oil was practically the same.

The oil is 28.4 gravity. The same operators have started two other tests in the same general area.

One other small oil well was completed in this area about two years ago by Lenz and associates around the 2850 foot level. Exact production was never announced but it was estimated at 20 to 60 barrels daily.

Make Drill Stem Test in St. Francis County Wildcat

El Dorado, Ark.—Kentucky-Arkansas Oil & Gas Company last week were arranging to make a drill stem test in 42 feet of a broken formation from 2945-87 feet in Britton 1, NE NW Section 1-4n-1e, St. Francis County, Arkansas, a rank wildcat.

Arkansas Field Developments

New Operations

MILLER COUNTY—M. D. Fitzwater, Claud Fouke 1, 660 ft south and 660 ft west ne corner ne ne Sec. 11-17-27.

Wildcat Drilling Report

(Wells shut down not included)

CLEBURNE COUNTY—Frank S. Craver, Donithan Lbr. Co. 1, sw sw 34-11-9, dr 565 ft.

COLUMBIA COUNTY—Kendall Oil Co., Fullenwider & Kitchen 1, ne ne 13-17-22, owdd, dr sandy shale 2168 ft.

DREW COUNTY—Cooperative Dev. Co., Ogles 1, 33-13-5, sd 3180 ft.

FRANKLIN COUNTY — Ozark Nat. Gas Co., Monroe 1, 13-8-29, dr hd shale 1102 ft.

LITTLE RIVER COUNTY—Harrell et al, Taafe 1, 25-12s-32w, core sand 2780 ft.

MILLER COUNTY—Fitzwater et al, E. L. Beck 1, sw se 35-15-26, 1500 ft fluid in hole, 500 oil, after dr deeper 2 ft, td 2935 ft. C. J. Norsen 1, se sw 20-15-27, 10-inch 121 ft; Fouke 1, ne ne 11-17-27, sp 12½ cas 105 ft (formerly carried as Fred Peterson's test). Goodwin et al, E. A. McCowan 1, nw se 22-15-28, dk. Duluth-Ark. Oil Co., Stone 1, sw se 32-14-26, plugged back to 2300 ft, td 2535 ft, red shale.

PIKE COUNTY—Kentucky-Ark. O&G Co., Inc., East 1, 13-9-23, rig.

ST. FRANCIS COUNTY — Kentucky-Ark. O&G Co., Inc., Britton 1, ne nw 1-4n-1e, arr make ds test of 42 ft broken formation from 2945-87 ft, td 2987 ft.

NEW MEXICO . . . ROCKY MOUNTAIN

Hobbs Extension Require Offsets and Land Owners Want Them. Wyoming Deep Test Will Make Producer.

Rattlesnake Dome Well Producing from 7000 Feet

Santa Fe, N. M.—Oil production from the Delaware lime horizon in the Rattlesnake Dome field, San Juan County, was resumed last week when Continental Oil Company and the Santa Fe Corporation's Munoz 24, SW Section 1-29n-19w, swabbed and flowed 618 barrels of fluid, 10 per cent water, after plugging back from 7370 to 7000 feet. This producer holds the depth record for the state, and is also the state's deepest oil or gas well for the time being because of the discovery well of the Delaware zone in the field having ceased its flow. Munoz 24 swabbed and flowed 502 barrels fluid, including 20 per cent water, during the 24 hour period ending 7 a.m., September 7. Any further increase in water will require the landing of a string of 5½-inch pipe below the seven-inch casing, which was cemented with 100 sacks at 6505 feet last May. The production is coming from the 6800-foot horizon, and the water is believed to be originating between the bottom of the casing and the Delaware pay zone.

The Delaware horizon was proven productive in April, 1929, when the above companies' Munoz 17, Section 2-29n-19w, blew in flowing 3500 barrels of fluid daily, including 36 per cent water, at 6769-71 feet, and yielded about 374,800 barrels oil before water drowned the oil and gas production in September, 1931. The hole water deepened to 6985 feet without any appreciable increase in production. A junked hole resulted, and a crew has been busy for four months re-conditioning the hole. About 5355 feet of 4¾-inch casing has been recovered, and work is now in progress on removing the 6¼-inch pipe to be re-set above the original oil horizon.

Hobbs Extension Try Will Require Three Offsets

Hobbs, N. M.—An effort to lengthen the productive limits of the Hobbs field, Lea County, to the northwest is to be made by Landreth Production Corporation, Fort Worth, through the starting of an outpost test in the southwest corner of the E½ NE Section 13-18s-37e, on an 80-acre lease. In the event of production a west offset will be required by Humble Oil & Refining Company, and south offsets to each by Shell Petroleum Corporation. The trend of production to the northwest is wide open, and royalty owners, including the state, have been demanding that lease owners continue development work.

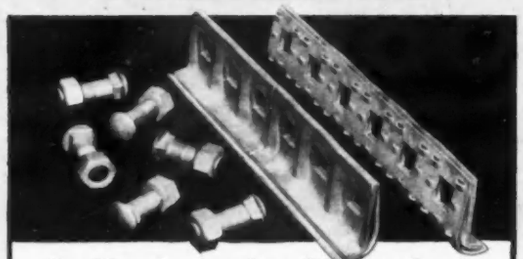
Shell Petroleum Corporation's State-Lizzie Rice 1, SEc Section 13-18s-37e, and the furtherest northwest well in the Hobbs field, was completed September 3, flowing at rate of 10,108 barrels fluid, six per cent drilling water, and 8,280,000 cubic feet of gas, open tubing and casing. This well has a total depth of 4175 feet, and topped the crystalline lime at 4035 feet. Empire Gas & Fuel Company's Hardin 4, a southeast offset, is in process of completion at 4200 feet.

Two more tests for the east side of the Hobbs field, near the townsite, will be required as result of Gypsy Oil Company having started rigging up to drill East-Grimes 2, located 1980 feet from the north and 660 feet from the east lines of Section 22-18s-38e. Continental Oil Company will be forced to drill an offset to the west.

Shell Petroleum Corporation's Thorpe 1, SWc NW SE Section 10-19s-38e, ceased flowing August 30, but had not developed water. This well was completed in January, 1930, rated at 1100 barrels natural from lime at 4142-4170 feet. A portable machine has been ordered moved in to try and revive the flow by swabbing. Sinclair Prairie Oil Company's Selman 1, which is also located in the lower end of the Hobbs field, developed 35 per cent sulphur water when opened to 300 barrels daily, but has since resumed making pipe line oil by pinching the flow.

Tidal Oil Company et al's State 1, which was reported last week as having extended the Eunice pool, Lea County, one mile to the north, has shut in awaiting completion of The Texas Pipe Line Company's connection, as all lease storage had been filled. This well is rated above 600 barrels oil daily from lime at 3745-3985 feet.

FLEXCO
REG. U. S. PAT. OFFICE
DEEP WELL
Belt Fasteners



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East Oregon Well Testing Sand Showing Oil and Gas

Seattle, Wash.—Considerable importance is being placed upon the reported discovery of commercial gas production in Clarno Basin, in Antelope valley, northern Wheeler County, eastern Oregon, Clarno Basin Oil & Gas Company has discovered what is believed to be a pay sand at 2550 feet; showings of both oil and gas are said to be present. A core of the sand is reported to have shown considerable saturation, and casing is now being set, control head installed, preparatory to drilling in soon.

Fiddler Creek Wildcat Test Delayed; Hole Bridges

Osage, Wyo.—An unexpected delay in the completion of the Fiddler Creek wildcat well, southwest of the Osage field, in eastern Wyoming, developed last week when a bridge was formed in the 1000 feet of open hole below the casing. Caving formation caused the bridge and it will be necessary to drill

this out and clean out the hole before the casing can be run to bottom for a test of the production. Additional trouble has been caused by an explosion in the boiler house which occurred when the boilers were being moved back from the well, out of danger.

This well, drilled by Julius C. Peters and associates of Great Falls, is standing with 2500 feet of fluid in the hole, showing considerable gas. The well is bottomed at 4507 feet, supposedly on top of the Muddy sand. The oil is high gravity, similar to that in the Osage field. The discovery is considered most important since it either shows a material extension to the Osage field to the southwest, or proves up an entirely new field in eastern Wyoming.

More Wells Starting in Cut Bank Field Gas Area

Cut Bank, Mont.—The Roy Tarrant interests have announced locations for three wells to be drilled on their properties southwest of the Cut Bank field gas wells, and report good progress in the two wells now under way. Montana Power Company has started drilling Peoples 1 and it is expected that The Texas Company will start another well immediately upon completion of its Carl E. Peterson 1 which is being slightly deepened into the sand in which it developed about ten million feet of natural gas two weeks ago; The Texas Company holdings are north and east of the previously proved part of the field.

Rumor of Big Horn Basin Refinery Well Founded

Casper, Wyo.—It is reported here that eastern capital has been interested in the proposition of building a modern black oil refinery at some point in the Big Horn Basin territory, probably either at Worland or at Thermopolis. It is said, moreover, that independent producers in the territory have been asked for quotations on their available production and for the development of more production in the Garland and Byron districts in the northern part of the state. In addition, it is pointed out that the recent discovery of high grade oil at shallow horizons on the Hidden dome structure, near Worland, will supply a source of crude suitable for mixture with the heavier grades. It is said that there being a decided advantage of freight rates in the territory, it would be very profitable to refine the flexible grades of Garland and Byron crudes south of the Montana state line. The high octane content of these black oils is favorable for the manufacture of gasoline of a very superior grade.

New Operator Plans Test In Dry Creek Field

Red Lodge, Mont.—Interesting news from the Dry Creek field, southern Montana, last week was to the effect that a new operator plans to enter the district and to start drilling a test within another 90 days. The new company is the recently-organized Dry Creek Oil Company headed by A. J. Smith of the Smith Engineering Company of Kansas City, and E. C. Winters, formerly with the White Eagle Oil Corporation. Location for the new test is about three quarters mile northeast of Ohio Oil Company's Bowman 11, which by its discovery of commercial gas production in the Frontier sands, proved the producing area of the field a mile northeast of the completed wells. Dry Creek Oil Company's well will be Croft 1. If it is a commercial producer it will add much territory to the Dry Creek field.

Deny Rumor that Refinery At Parco Will Abandon

Parco, Wyo.—A rumor to the effect that the town of Parco, on the Union Pacific railroad, in southern Wyoming, would be abandoned by Producers & Refiners Corporation and that the company's refinery was to be shut down entirely, was emphatically denied last week by company officials, who stated that there was no foundation whatever in any of the story, and that on the contrary the company had every intention of continuing operations at its Parco plant.

Mountain States Field Developments

NEW MEXICO

Completions

Company, Well and Location	Initial Production Bbls.	Depth
HOBBS FIELD—		
Midwest Ref. Co., O. B. Terry 11, (SE 9-18-38)	¶1 & 1025	4175
Shell Pet. Corp., Lizzie Rice 1	¶8¼ & 10,000	4175
RATTLESNAKE DOME-SAN JUAN COUNTY—		
Continental Oil Co. et al, Munoz 24	500	7370
Munoz 30	10	896

New Operations

RIO ARRIBA COUNTY — Pan State Oil Co., 26-3s-1e, lcn.

Wildcat Drilling Report

(Wells shut down not included)

BERNALILLO COUNTY—Norrins Realty, Pajarito Grant 1, 22-9n-1e, dr 2781 ft.

CHAVES COUNTY—R. D. Compton, sw se 20-10s-24, prep to run 8¼-inch to dry up hole, td 700 ft.

DE BACA COUNTY—Montgomery et al, Wood 1, sw 6-4n-20e, fsh tools 4662 ft. Land-

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owners Oil Co., State 1, ne 16-1s-27e, fsh 5092 ft.

DONA ANA COUNTY—Middle States O&G Co., Boretzi 1, 14-36-5e, rig.

GUADALUPE COUNTY—N. M. Prod. & Ref. Co., McMillan 1, 24-5n-16e, wait for orders 4507 ft.

HARDING COUNTY — Carbon Dioxide Corp., Tinsley 1, 31-21n-31, dr 650 ft.

RIO ARRIBA COUNTY—Governador Oil Co. 1, se 14-29n-7w, sd 2642 ft. Pan State Oil Co., 26-3s-1e, lcn.

ROOSEVELT COUNTY—Peterson et al, Good 1, se ne 32-5s-30e, rig up.

SAN MIGUEL COUNTY—Cabra Springs O&G Co., Thompson 1, ne 21-12-22, dr 2600 ft.

SOCORRO COUNTY—J. C. Green et al, 1, 14-2n-5w, dr res 300 ft.

VALENCIA COUNTY — Western Natural Resources, 1, 15-2n-5w, dr 1000 ft. Homer C. Mills, Inc., Tome 1, nw sw 29-6n-3e, rigging up.

COLORADO

Wildcat Drilling Report

(Wells shut down not included)

ADAMS COUNTY—Hills Dome Lease Dev. Co., se 27-3s-68w, cem 4025 ft.

ARAPAHOE COUNTY — McDeb Drilling Co., Fitzsimmons 1, ne 7-4s-68w, sd 6110 ft.

DELAT COUNTY — Black Canyon O&G Co., Lot 12, 5-15s-94, install larger rig 330 ft.

ELBERT COUNTY—J. M. Botts 1, se 7-8n-58w, dr 1500 ft.

EL PASO COUNTY—Gulf States Oil Corp., Carson 2, ne 10-16s-66w, dr out plug 2000 ft.

GRAND COUNTY—Oil & Mineral Lands, Inc., McElroy 1, se sw 14-2n-81, resume at 618 ft.

LA PLATA COUNTY—McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, rig up. Phipps et al, sw 9-33-1e, sd 520 ft.

LINCOLN COUNTY—Eastern Colorado Oil Corporation, State 1, nw 36-14s-57w, dr 3428 ft.

MOFFAT COUNTY—W. A. Myers et al, sw sw 16-4n-101w, dr 3107 ft.

MONTROSE COUNTY—Uncompahgre O. & G. Co., Vandemark 2, 27-50n-10, co to resume 800 ft.

PARK COUNTY — South Park O&G Co., Milligan 1, se 13-8s-76w, dr bel 3020 ft. South Park O&G Co., Esche 1, ne 5-9s-76w, co and fsh pipe, td 2470 ft.

WELD COUNTY — Tulsa-Ft. Morgan Oil Co., Anthes 1, ne ne 24-8n-59w, to install rotary 3318 ft. Ohio Oil Co., Butters 1, 7-6n-60w, running casing to test 6715 ft. Manning & Terry, Niles 1, ne ne 13-6n-61w, sd for orders 6728 ft. Ramsey Pete Co., Tighe 1, sw ne se 15-7n-59w, rig up. Retter Oil Co., Cronin 1, sw 24-1n-66, dr 625 ft.

MONTANA

Wildcat Drilling Report

(Wells shut down not included)

BROADWATER COUNTY—Capitol O&G Co., nw 7-8n-1e, dr bel 2002 ft.

CARBON COUNTY—Corbett Royalty Co., sw se 1-6s-23e, standing 1150 ft. Jack Creek O&G Co., se 15-7s-23e, dr 1210 ft.

CARTER COUNTY—E. T. Moorehead, sw 34-4s-57w, wait for 12½-inch at 350 ft.

CASCADE COUNTY—Charles Merz et al, Sheffels 1, nw 4-21-4e, ur 5 3/16-inch for w. s. o., 1811 ft.

FALLON COUNTY—H. W. MacDonald's 1, sw 28-8n-60e, dr bel 1915 ft.

FERGUS COUNTY—Melton Corp.'s 1, sw 24-21n-17e, flow water over top, run cas 3300 ft.

GALLATIN COUNTY — Montana Gas & Pete Corp., Adams 1, 35-1n-2e, refinancing, td 1650 ft.

GLACIER COUNTY—Milk River Pete Co., ne 28-36n-12w, wait orders 4250 ft. Tarrant et al, Yunck 1, nw nw 12-34-6w, dr 995 ft. Tarrant et al, Reickhoff 1, ne 3-34-6w, dr 1965 ft.

GOLDEN VALLEY COUNTY—Golden Valley Oil Co., 2-6n-22, run 8-inch past, 3400 ft.

HILL COUNTY—Fargo Oil & Gas Co., 29-37n-15e, run casing for w. s. o., 700 ft.

JUDITH BASIN COUNTY — Newton & Waddington, 15-16n-10e, resume 1140 ft.

LIBERTY COUNTY — Northland O&G Corp., Yurman 1, sw 32-33-5e, sd 2815 ft. Peoples O&G Co., nw 17-35-6e, dr 2350 ft. Dohm et al, Millen 1, sw 10-37-5e, fsh 295 ft.

MUSSELSHELL COUNTY — Minnesota-Flatwillow Pete Co.'s 1, sw 7-11-31e, dr 3000 ft.

PHILLIPS COUNTY—St. Cloud O&G Co., sw ne 20-34n-24e, dr 500 ft.

PONDERA COUNTY—Bell-Adams, Venetz 1, 31-27-4w, dr res 920 ft.

SWEETGRASS COUNTY—Shoshone Consolidated Oil Co., nw nw 23-2n-15e, ur to bottom 5795 ft.

TOOLE COUNTY—Liquid Gold Oil Co., 1, 25-36-1e, dr 2510 ft.

VALLEY COUNTY—Opheim O&G Co., ne 28-37n-38e, mvg in.

YELLOWSTONE COUNTY—Spokane-Laurel Oil Co., sw se 30-2s-24e, sd to finance, 1390 ft. Peter Antonioli, ne ne 2-2n-25e, wait for cas, 2370 ft.

WYOMING

Wildcat Drilling Report

(Wells shut down not included)

CONVERSE COUNTY—Converse O&G Co., sw nw 27-33n-72w, dr ahead 2320 ft.

CROOK COUNTY—St. Onge O&G Co., ne se 20-53n-61w, lcn. McWethy et al, 1, 1-49n-67, dr res 550 ft.

FREMONT COUNTY—Ward O&G Co., 28-34-90, sd for financing 3828 ft. Yellowstone Oil Co., Gabus 1, sw 14-38n-94w, preparing to resume 2315 ft.

LINCOLN COUNTY—H. C. Harris et al, se 14-21n-117e, dr bel 1550 ft.

NATRONA COUNTY—Mutual Oil Synd., Midway 2, sw se 14-36-79, set tubing with liner to test 6057 ft. Summit Oil Co., Trevett 1, 21-33-80, dr around (corrected) 1450 ft.

SWEETWATER COUNTY—Vermillion Oil Co., sw se 15-12n-99w, mvg in to res 4685 ft. Hidden Treasure Oil Co., se sw 11-20n-104w, plan to resume 1720 ft.

UINTA COUNTY—Transwestern Pete Co., Ltd. (Doheny) 5-14n-118, 4040 ft. Park City O&G Co., ne nw 16-15n-113w, recem for w. s. o., 2968 ft. Bear River Oil Co., Ltd., ne se 13-15n-120w, gas show reported 1000 ft.

WASHAKIE COUNTY—Bales Oil Trust, Brome 1, ne nw 13-48n-90w, testing 1430 ft.

WESTON COUNTY—Julius Peters et al, Weitzell 1, nw 30-46-64, prep to test 4520 ft. Gose Synd., ne 28-37n-63w, try to clean out to get by iron 5050 ft.

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EASTERN STATES

Field Developments

Completions

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
RITCHIE COUNTY—		
K. M. Hunt, Eppling 1	¶¼	1880
SOUTHEASTERN OHIO		
MONROE COUNTY—		
James F. Cree & Co., Cree 12	3	1390
WASHINGTON COUNTY—		
Rex Oil & Gas Co., Whitacre 6	10	1303
Huntsman Gas Co., Butler 3	¶¼	1460
CENTRAL OHIO		
ATHENS COUNTY—		
Allegheny Oil Co., Monahan 25	5	1092
Carpenter & Glazier, Curtis 16	*	170
C. P. Riley, Townsend Oil & Gas 1	*	150
BELMONT COUNTY—		
Oko Oil & Gas Co., Adams 1	¶¼	1031½
LICKING COUNTY—		
Settles Oil Co., Hughes 2	1	579
Emerald Petroleum Co., Little 2	30	2926
LORAIN COUNTY—		
Ohio Fuel Gas Co., Bassett 1	*	....
MUSKINGUM COUNTY—		
The Wittmer Co., Riley 2	30	3021
MEDINA COUNTY—		
Oko Oil & Gas Co., Sanford-Watson 35	5	363
STARK COUNTY—		
White & Brown, Corbett 1	¶1½	4478
SUMMITT COUNTY—		
Arthur Reeves, Kandle 1	¶½	4375
Barnhart & Co., Kirby 1	¶¼	3450
NORTHWESTERN OHIO		
SENECA COUNTY—		
Floy B. Horner, Brickner 1	¶¼	....
Nick Matsovich, Shumaker 1	*	2172
Industrial Oil & Gas Co., Hunker 1	*	505
Sandusky Gas Co., Martin 3	¶¼	....
INDIANA		
GIBSON COUNTY—		
Wabash Public Service Co., Malone 1	¶2	1519
PIKE COUNTY—		
William Bell & Co., Murray 1	*	1559
KENTUCY		
DAVIESS COUNTY—		
S. M. Sherman, Pegron 1	40	....
James C. Ellis & Co., Howard 1	*	....
Mida McMahan, Jones 7	*	640
CUMBERLAND COUNTY—		
Archie McGuire & Co., Marrowbone Creek Pool 1	¶2	....
C. M. & H. Oil Co., Skelly 340-acre 1	¶2	....
HANCOCK COUNTY—		
H. C. Smith, Stout 4	*	....
Vicars & Co., McFarrow 1	*	....
H. A. Henry, Chambers 4	5	....
McLEAN COUNTY—		
Miller, Damron & Co., Dunn 4	120	....
Miller, Damron & Co., King 3	80	....
OHIO COUNTY—		
Goldberg & Co., Owen 2	450	....
W. W. Damron & Co., Morris 4	200	....
W. W. Damron & Co., Morris 5	200	....
Snowden-McSweeney Co., Owen 1	*	....

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MICHIGAN FIELD

Central Michigan Had Good Results During August

Mt. Pleasant, Mich.—Three good commercial oil wells completed as August closed rounded out one of the best months of the year in Central Michigan from the standpoint of oil development.

There were 16 Dundee limestone oil wells completed during August with a combined initial production of slightly more than 13,000 barrels. The best of the wells was Pure Oil Company's Seeley 1, Midland County, Greendale township, Section 9, which had an initial of 2115 barrels. Six other wells had initials of better than 1000 barrels.

All of the commercial oil well completions were in the east pool of the Central Michigan field.

Permits were taken out for 22 new tests during the month. Four tests were abandoned as dry.

Besides the oil well completions two gas wells in the proven Broomfield pool 10 miles east of here were completed, one with a 7½ million cubic foot flow and the other with a 1¼ million foot flow.

Four other tests in scattered areas of the state were completed as dry holes.

Completions this week include William Robinson's Skinner 2, Midland County, Greendale township, SE SE SW Section 9, good for 1900 barrels initial. The well offsets to the west a 2100-barrel well and offsets to the north a 1300-barrel well.

Old Dutch Refining Company's Opperman 1, Midland County, Greendale township, Section 12, was good for 500 barrels and Braden-Sanders' Stapelton, same township, Section 14, was good for 210 on initial. The Skinner 2 is in the main pool while the later two are located on the east border of the field.

Miller & Combs are plugging Askergrad 2, Gratiot County, Elba township, Section 9, after drilling to 526 feet and failing to get gas. The well is located in a small gas pool where five commercial gassers have been drilled.

Central Michigan Gas Line Hearing September 19

Mt. Pleasant, Mich.—Hearings before the Public Utilities Commission in Lansing on the Michigan Natural Gas Company's application to build a pipe line from the Central Michigan gas field to Saginaw, Bay City, Flint, Pontiac and other intervening points, originally set for September 26, has been advanced to September 19.

Seek Gas Franchise in 3 Isabella County Townships

Mt. Pleasant, Mich.—Consumers Power Company, now supplying the city of Midland and its own power plant in Zilwaukee with natural gas from the Central Michigan field, will seek gas franchises in three Isabella County townships in the September 13 primaries. If the franchises are granted the utility company will offer natural gas to domestic users.

Michigan Field Developments

Completions

Company, Well and Location	Initial Production Bbls.	Depth
MIDLAND COUNTY—		
Wm. Robinson, Skinner 2, Greendale twp se se sw sec 9	1900	3572
Braden-Sanders, Stapelton 3, Greendale twp nw se ne sec 13	210	3557
Pure Oil Co., Purtell 3, Greendale twp nw se nw sec 15	960	3565
GRATIOT COUNTY—		
Miller & Combs, Askergrad 2, Elba twp sec 9	*	526

New Operations

MIDLAND COUNTY—R. D. Malcolm, Malcolm-Hastings 2, Greendale twp, ne sw sec 13.

ISABELLA COUNTY — Goll, Graves and Mechling, Adams 2, Chippewa twp, sw se nw sec 2.

SAGINAW COUNTY—Smith Petroleum Co., Daenzer 1, Birch Run twp, ne sec 31.

Wildcat Drilling Report

(Wells shut down not included)

MIDLAND COUNTY—Pure Oil Co., Yost et al 1, Greendale twp, sec 35, drv pipe 275 ft. L. G. Thompson, Newland 1, Lee twp, sec 19, dr 3100 ft.

ISABELLA COUNTY — E. S. Hammond Graham 1, Chippewa twp, sec 22, dr 400 ft.

CLARE COUNTY — Theodore Oil Co., Thompson Brothers 1, Greenwood twp, sec 35, ur Marshall, 1650 to 1900 ft.

OCEANA COUNTY—Varner and Lockwood, Flood 1, Pentwater twp, sec 34, dr 250 ft. L. E. DuVall, Walace 1, Elbridge twp, sec 32, sp.

MACOMB COUNTY—H. H. Brown, Bowler et al 1, Chesterfield twp, sec 29, rig.

LIVINGSTON COUNTY — H. Snell et al, Webb 1, Genoa twp, sec 34, sp.

Southeastern States

Alabama Wildcat Plans Test of 1300-Foot Level

Jackson, Ala.—South Alabama Oil & Gas Company, which recently leased a rig from John Glassell, Jackson, Mississippi, operator to drill a wildcat test on the Hatchetigbee Anticline in Washington County, Alabama, has spudded the test, St. Stephens A-1, Section 26-7n-1w, cemented 78 feet of 12½-inch surface casing and is drilling below 200 feet. The first objective will be testing of a formation around the 1300 foot level which showed gas in several previous tests in this general area drilled some years ago.

Southeastern States Field Developments

MISSISSIPPI

Wildcat Drilling Report

(Wells shut down not included)

AMITE COUNTY (Gloster) — Magnolia State O&G Co., Chas. Anderson 1, ne nw 14-3n-3e, rig.

CHICKASAW COUNTY—Hightower & Golsan, Fleming 1, 20-13s-3e, owdd, co to deepen, td 1605 ft.

HINDS COUNTY—Love & Lancaster, Elton Plantation 1, se se 17-4n-1e, materials.

LAMAR COUNTY (Purvis) — Stauffer & Kouri, Trs., Bond 1, se ne 18-2n-14w, dr 2710 ft.

MONROE COUNTY—P. J. McAlpine et al, Chas. Rye 1, se nw 22-15s-16w, sd 1777 ft shale.

NEWTON COUNTY — Dalton Dev. Co., Majure 1, 26-6n-11e, arr res, td 1520 ft.

NOXUBEE COUNTY — Thompson O&D Co., Donahue 1, 25-16n-17e, rep dk, td 1735 ft.

ALABAMA

LAMAR COUNTY (Vernon)—P. J. McAlpine et al, Gardner 1, nw nw 22-15s-17w, wo, td 3184 ft.

MOBILE COUNTY—J. C. Prine et al, M. & O. Ry. 1, se ne sw 33-2n-4w, trying recover dr pipe, td 2612 ft shale.

WASHINGTON COUNTY—South Ala. O. & G. Co., St. Stephens A-1, 26-7n-1w, sp 12½ cas 78 ft, dr 200 ft.

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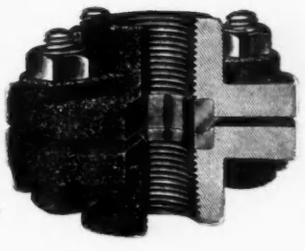

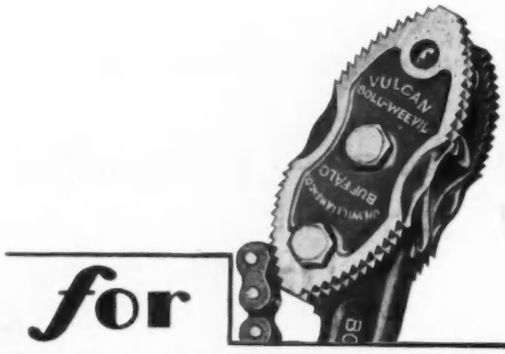

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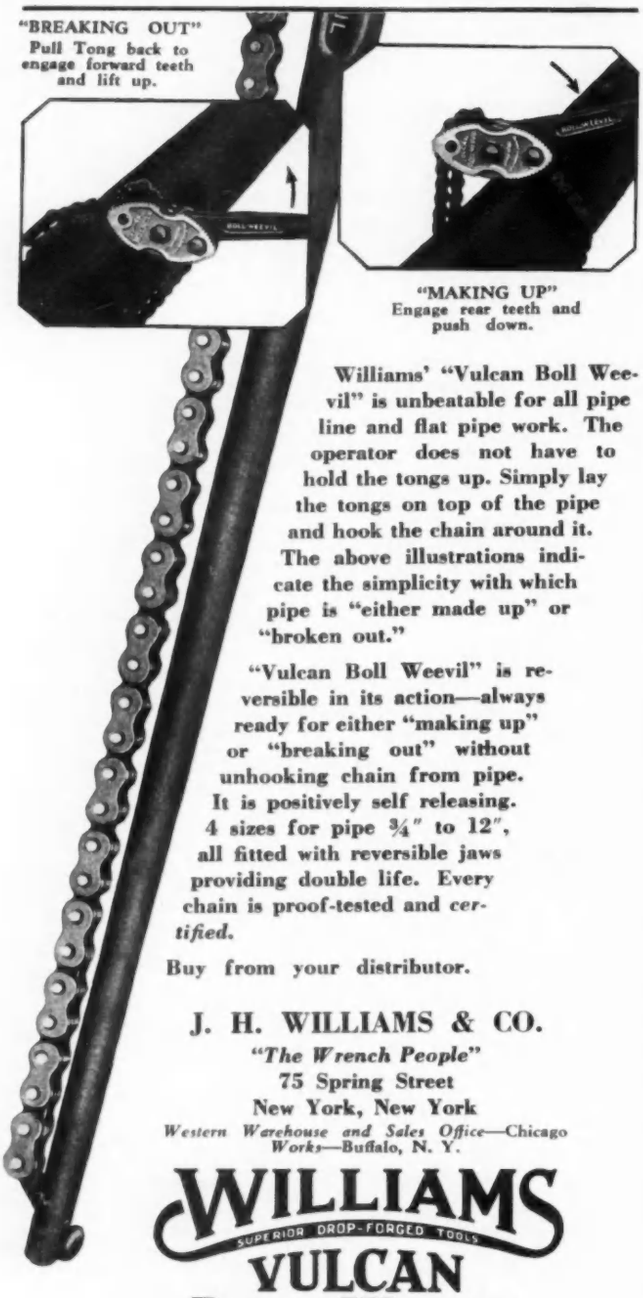

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Flow Valve Reduces Works as Pump

RALPH T. BAKER

OKLAHOMA producers are utilizing various devices for aiding the flow of oil and gas in a natural manner from their wells, as a measure of economy and efficiency. Among these devices is the Bryan flow valve, invented by Thomas Bryan, superintendent of production, Oklahoma district, for J. S. Cosden, Inc., of Oklahoma, and sold by the Gas Lift Engineering Corporation of Oklahoma City. The valves have been placed in all types of wells varying from 1500 to 6800 feet in depth, and from 25 to 12,000 barrels output.

"In most instances the valves are installed for the purpose of reducing the gas-oil ratios, along with kick-off service," stated Mr. Bryan. "It has the following purposes: (1) To serve as a kick-off unit in high fluid-level wells, to flow under gas lift, or naturally by the aid of gas originating in the well with the oil; (2) flowing the well, by its automatic intermittent operation, injecting gas into the stream of fluid traveling upward, this operation being caused by any loss of velocity occurring in the travel of the fluid; (3) pumping low fluid-level wells by maintaining the fluid at any desired static level and operating at lower pressures than would otherwise be possible by straight flow; and, (4) by the aid of a packer and a reservoir chamber, to flow a well on very deep holes, when the pressure necessary to lift is greater than the reservoir pressure existing in the well, by means of intermittent operation."

The valve acts as a pump, in principle, operating at any pressure, at any depth, or with any quantity of fluid. In construction, it is the new application of an old device, according to Mr. Bryan, being a vertical balanced valve, and relying on the velocity of the flow of the fluid or gas for functioning. In the normal tubing flow, the fluid strikes the disc of suitable size governed by the volume of the fluid being handled, and this flow opens or closes the valve, instead of the conventional springs, diaphragms, etc., usually used for this purpose.

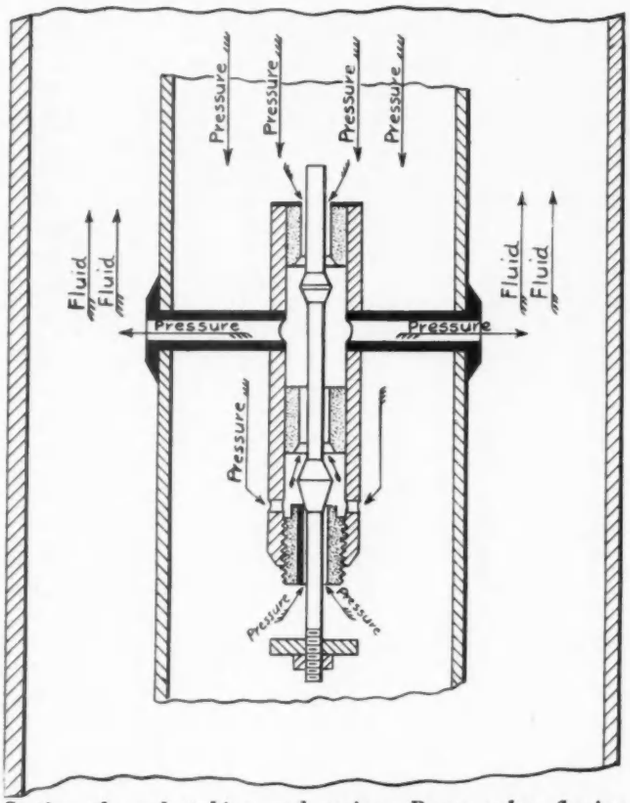
The valve itself has two major parts, which are: (1) the cage, body, or housing; and (2) the valve stem from which the contact disc is suspended. Both are constructed from Monel metal, with the outside portions chromium-plated. No fluid, sand or foreign matter can get into the valve. It is made in two sizes—a large size adaptable to tubing measuring from two to four inches in diameter, and a small size for use with tubing under two inches in diameter. The large valve measures 3¼ inches by seven-eighths inches, while the small size measures 2¼ inches by one-half inch.

The two seats for the valve are pressed into the cage and form seats for the contact with the enlargements on the stem. Each valve is hand-made, with allowable variation of only one-fourth of one-thousandth part of an inch. The valve stem is attached to the cage or housing by means of an adjustable bushing located at the bottom of the cage. The bushing has a two-fold purpose, in that it supports the valve stem, as has been described, and also permits proper adjustments to be made in the valve for casing flow production.

After the valves are assembled they are suspended in tubing nipples of the size conforming to the tubing used in the well. Monel metal nipples are used, these being screwed

Gas-Oil Ratio; *Also and* Kick-Off Unit

into the body or cage of the valve and welded into the tubing nipple wall. Two nipples of equal length have been used by the manufacturers in equipping wells in the past, but a new method is being used now whereby the valve is swung close to, or attached to the inside wall of the tubing by one very short nipple and one long nipple. With the valves in the nipples, the producer attaches the collars and



Section through tubing and casing—Bryan valve flowing up casing gas lift.

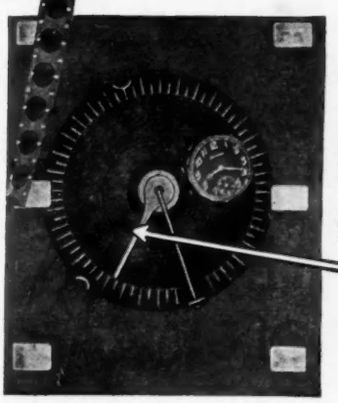
runs the nipples with the tubing string as short joints. These nipples are set at pre-determined locations in the string as specified by the distributors, according to calculations made from data furnished by the producer, involving the following information: (1) Rock pressure of the well, or the available pressure to be utilized in flowing the well; (2) quantity of fluid; (3) percentage of water and oil; and (4) static fluid level of the well.

From three to 10 valves are found necessary in each well. The location, or spacing of the valves in the tubing string, is considered very important, usually conforming to the power available to flow the well. With 1000 pounds pressure available from a gas lift plant, fewer valves may be used than if only 250 pounds pressure is available, other conditions remaining the same. This matter usually rests upon the pressure desired by the operator.

With a string in place, gas lift pressure introduced in the casing causes gas to be introduced through the top valve of the series, flowing the fluid out of the tubing and lower-

Now You Can See Inside Your Well

Read article on well surveying in August 29th Oil Weekly



Note the bubble which accurately shows both direction and degree of inclination.

EVERY well, either abandoned or costly in operation should be "looked into". — Pumping costs depend upon more than depth; upon *crookedness* of the drill-hole. — Fortunes in oil have been *missed* by deviation.

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Notice of Sale of Oil and Gas Lease on Part of University Lands

Pursuant to the provisions of Chapter 282 of the General and Special Laws of Texas, passed at the Regular Session of the Forty-first Legislature approved March 29, 1929, and amended by Chapter 174 of the Acts of the Regular Session of the 42nd Legislature, the Board for Lease of University Lands hereby offers for sale, subject to the right to reject all bids, upon sealed competitive bids in Austin, Texas, at the General Land Office, on the 17th day of September, 1932, at ten o'clock a.m. the oil and gas in and under the following described University Lands:

1. W/2 Sec. 13, Block 31, Crocket County.
2. All of Section 24, Block 31, Crocket County.
3. W/2 Section 25, Block 31, Crocket County.
4. All of Section 14, Crocket County, Block 31.
5. W/2 Section 23, Block 31, Crocket County.
6. All of Section 26, Block 31, Crocket County.
7. W/2 Section 35, Block 31, Crocket County.
8. Sections 1, 2, 5, 6, Block 32, Crocket County, constituting a unit.
9. All of Section 6, Block 29, Crocket County.
10. All of Section 5, Block 29, Crocket County.
11. W/2 Section 8, Block 29, Crocket County.
12. W/2 Section 7, Block 29, Crocket County.
13. Sections 1, 2, 3, 10, 11, 12, Block 29, Crocket County, constituting one unit.
14. Sections 22, 23, 26, 27, Block 29, Crocket County, constituting one unit.
15. Sections 5 and 6, Block 28, Pecos County.
16. Section 34, Block 27, Pecos County.

A minimum annual rental of not less than twenty-five cents per acre and a royalty of not less than one-eighth of the oil and gas in the above described lands have been fixed by the Board.

Blank applications for purchase and form of lease prescribed by the Board may be had by applying to the Secretary of the Board at the General Land Office at Austin, Texas.

Dated at Austin, Texas, this 20th day of August, A. D., 1932.

BOARD FOR LEASE OF UNIVERSITY LANDS
By: Edward Crane, Chairman
Robert L. Holliday, Board Member
Sam C. Sayers, Acting Land Commissioner

ing the level of the fluid in the casing. As the fluid drops to the second valve, introducing gas, the velocity of the gas and oil rising through the tubing closes any and all valves above the one in operation; and so on, to the bottom of the hole. Then the operation is reversed automatically. Gas enters the valve closest the bottom, giving a jet action to the bottom of the tubing, and lifts the oil as far as the pressure available permits, and, as the velocity decreases due to friction and the fluid reaches the point that causes high gas-oil ratios, or in other words as slippage sets in, the valve nearest this point automatically opens due to this loss of velocity, and the introduction of gas at this point kicks the fluid on out. This action may be repeated several times in the course traveled by the oil from the bottom to the top.

An important feature of the valve is that it permits unloading the well to the bottom, due to the ability of the valve to remain open until all fluid in the string above its location has been lifted out of the flow string. It is not affected by the fluid coming through the ports.

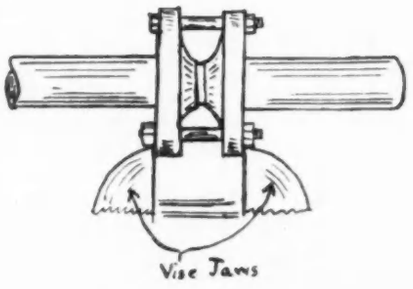
In casing flow, the reverse of tubing flow, operation of the valve depends upon closing the valve by means of the velocity of the gas through the ports of the valve passing from the tubing into the annular space between the tubing and the casing. The adjusting bushing at the bottom of the valve is adjusted for the desired pressure. When the bushing is screwed into the valve as far as possible, a 10-pound pressure within the tubing will close the valve. When the bushing is adjusted to its extreme outer position a pressure of 600 pounds is necessary to close the valve. This wide range makes it possible to use the valve for this purpose on almost any size well, at any depth, and to conform to the power available on any lease. The valve closes and remains closed when flowing through the casing, but only after complete evacuation has been obtained. When flowing through the tubing, the valve reopens automatically, admitting gas through the valve when required to maintain constant flow up the tubing.

Emergency Pipe Line Repair

The sketch herewith shows how a leaky joint in a high pressure pipe line was tightened. It was done without first emptying the pipe and without turning off the pressure.

The lower bolt, shown in the sketch, was too short in the threads. That is, it was not threaded sufficiently so that the engineer's assistant could turn the nut on farther. Tests showed the joint to be leaking on the lower side. The engineer did not know what was the matter with the bolt at the time but he learned afterwards—after removing it.

To replace the bolt the engineer took a small vise off the bench and blocked it up under the pipe, as indicated, so that the jaws firmly caught the edges of the flanges. He then tightened the vise jaws and relieved the bolt of its stress. Then he took off the nut from the bolt, removed the bolt itself and replaced it with another which was sufficiently threaded, and tightened it. The leak disappeared.



Squeaks *from the* BULL WHEEL

"William," said the Sunday school teacher, "can you tell me what we must do before we can expect forgiveness of sin?"

"Yes, sir," replied the boy. "We must sin."

She was well dressed and, as she walked into the fashionable milliner's shop, the manageress herself came forward to serve her.

"I see by your advertisement," she said, "that you have just received 2000 hats from Paris."

"Yes, madam," the respectful manageress informed her.

"Good," said the girl, taking off her hat, "I wish to try them on."

Two speed cops, noting a young woman who was driving dangerously, shot ahead of her and drew up their car broadside, so that the culprit had to stop.

"Excuse me, young lady," said one of the officers, sarcastically, "do you know anything about driving a car?"

"Of course," said the bright young thing, "what's your trouble?"

Traveler: "Who's the close-mouthed individual in the corner? He hasn't spoken for 10 minutes."

Village Wit: "He's just waitin' till Pete comes back with the spittoon."

The professor has reprimanded the children for playing on his sidewalk.

"But I thought, dear," said his wife, "that you liked children."

"I do like them in the abstract, but not in the concrete."

"Just look at old Phillips over there—thoroughly enjoying himself. And I've always understood he was a woman hater."

"So he is; but she's not with him tonight."

She insisted on taking innumerable frocks with her, and they arrived at the station loaded with luggage.

"I wish," said the husband thoughtfully, "that we'd brought the piano."

"You needn't try to be sarcastic," came the frigid reply. "It's not a bit funny."

"I'm not trying to be funny," he explained sadly. "I left the tickets on it."

Doctor—Now, before I examine you, may I ask what you drink?

Patient—Thank you, doctor. A small whisky and soda for me.

A handsome young chap strolled into the office during lunch hour.

"Do they keep automobile accessories here?" he asked of the pretty girl seated at a desk.

"Only me," she smiled sweetly.

Judge—And what did you do when you heard the accused using such awful language?

Policeman—I told him he wasn't fit to be among decent people, and brought him here.

The school teacher had been reading her class stories of the lives of famous inventors.

"Now, then, Edgar, what would you like to invent?"

Edgar rose to his feet, with a puzzled frown on his face.

"Well, teacher," said the youth, "I'd like to invent a machine so that by simply pressing a button all my lessons would be done."

The teacher shook her head.

"That's very lazy of you, Edgar," she reprimanded. "Now let Willie Wilson say what he would like to invent."

"Something to press the button," came the dreamy reply.

The little girl was a very timid little soul, and her father was trying to reason her out of her fears. He tried to tell her that there was nothing to fear in mice and frogs and bugs.

"Papa," she asked, "ain't you 'fraid of bugs?"

"No, dear."

"Ain't you 'fraid of snakes?"

"No, dear."

"Papa, ain't you 'fraid of nothing else in the whole world but just mamma?"

Abie and Ikie went into business together. Neither could read nor write, so they engaged a stenographer to read their correspondence. They sent a salesman out on the road, and after being out a week he sent them a telegram.

Abie, in the office, yelled to Ikie in the next room that they had a wire from the salesman. Ikie told him to have the steno read the message out loud. So she started:

"Was in Dallas Monday stop be in Houston Wednesday stop be in New Orleans Thursday stop—"

Here Ikie interrupted by yelling:

"Abie, leave that girl alone and let her read that telegram!"

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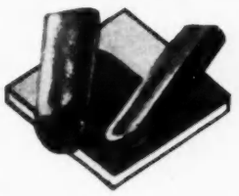

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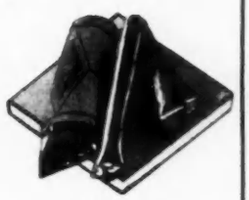

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NEWS *from the Industry's* EQUIPMENT MAKERS

Southwest Will Manufacture Orifice Meter Assemblies

Arrangements have been concluded by Southwest Welding & Manufacturing Company of Alhambra, California, to manufacture and distribute the Papico Orifice Meter Run Assemblies, according to John Lucas, president.

These assemblies have for several years been manufactured by Pacific Pipe & Supply Company, which is in process of liquidation. The Alhambra concern was the successful bidder for this equipment, which comprised an important part of the liquidating firm's business.

It is the plan of the welding company to expand its manufacture of products, including the fabrication of tanks, pipe, heat exchangers, pipe bends, flanges, expansion joints, etc., for the oil and gas industry.

Big Truck Specially Made For Iraq Pipe Line

Huge new truck-tractor and trailer equipment built by Marmon-Herrington Company for Iraq Petroleum Company and believed to be the largest equipment of its kind ever produced, has been completed at the company's factory in Indianapolis, and shipped to the Near East where it will be used in the construction of a 1200-mile pipe line across the Syrian desert.

The equipment consists of a truck-tractor, semi-trailer and trailer, in themselves weighing a total of 20 tons, and capable of pulling 40-ton loads.

Before being shipped, the equipment was subjected to a rigid test on the Indianapolis motor speedway. Fully loaded, the equipment was driven 100 miles without a stop, at an average speed of 28.68 miles per hour.

An idea of the size of the equipment may be gained by the fact that the overall length is exactly 100 feet, that there are 30 tires on the ground, that a total of 150 gallons of gasoline is carried, and that the weight of the bolsters and chains necessary to hold the load only is equivalent to the weight of the average passenger automobile. Despite its gigantic size, however, the equipment may be handled by the driver with no more effort, as far as steering, braking, etc., are concerned, than is required with the average passenger car. The unit may be turned completely around in a 90-foot circle.

Regan Forge Renews Contract On Trout et al Patents

With a record of having paid in excess of $500,000 in royalties on the manufacture of more than 12,000 casing control heads, 9000 tubing heads and other products under the Trout-Butler-Rasmussen patents, Regan Forge & Engineering Company has concluded arrangements to continue for the life of patents, the production of this equipment.

During the past 18 months, the company has given its attention on the development of several new products, including a swivel, tests on which began three years ago, and a tubing head which permits the raising and lowering of tubing in the well and also the pulling of tubing without the necessity of killing the well.

The special Iraq Petroleum Company equipment built by the Marmon-Herrington Company of Indianapolis, during its initial test on the Indianapolis Motor Speedway under the supervision of the A. A. A. Note the special test wheel attached to the running board which gave accurate readings during the acceleration and deceleration tests.

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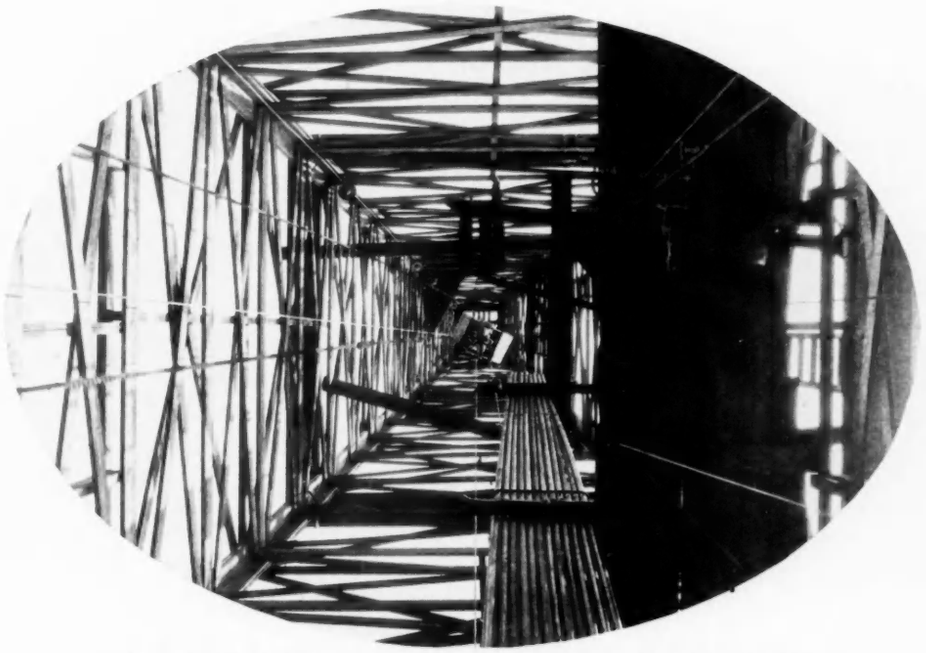

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